Drug & Cosmetic INDUSTRY

MAY, 1949

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ELMER SHEETS, Managing Editor
FRANCIS CHILSON, Production Consultant
M. A. LESSER, Technical Editor
HARRY G. KELBLY, Raw Material Editor
JUSTUS W. MATTHAEI, News Editor
HILDA C. McCOLLOM, Art Director

The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer, Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass., U. S. A. Editorial and General Office, 101 West 31st St., New York 1, N. Y., U. S. A.
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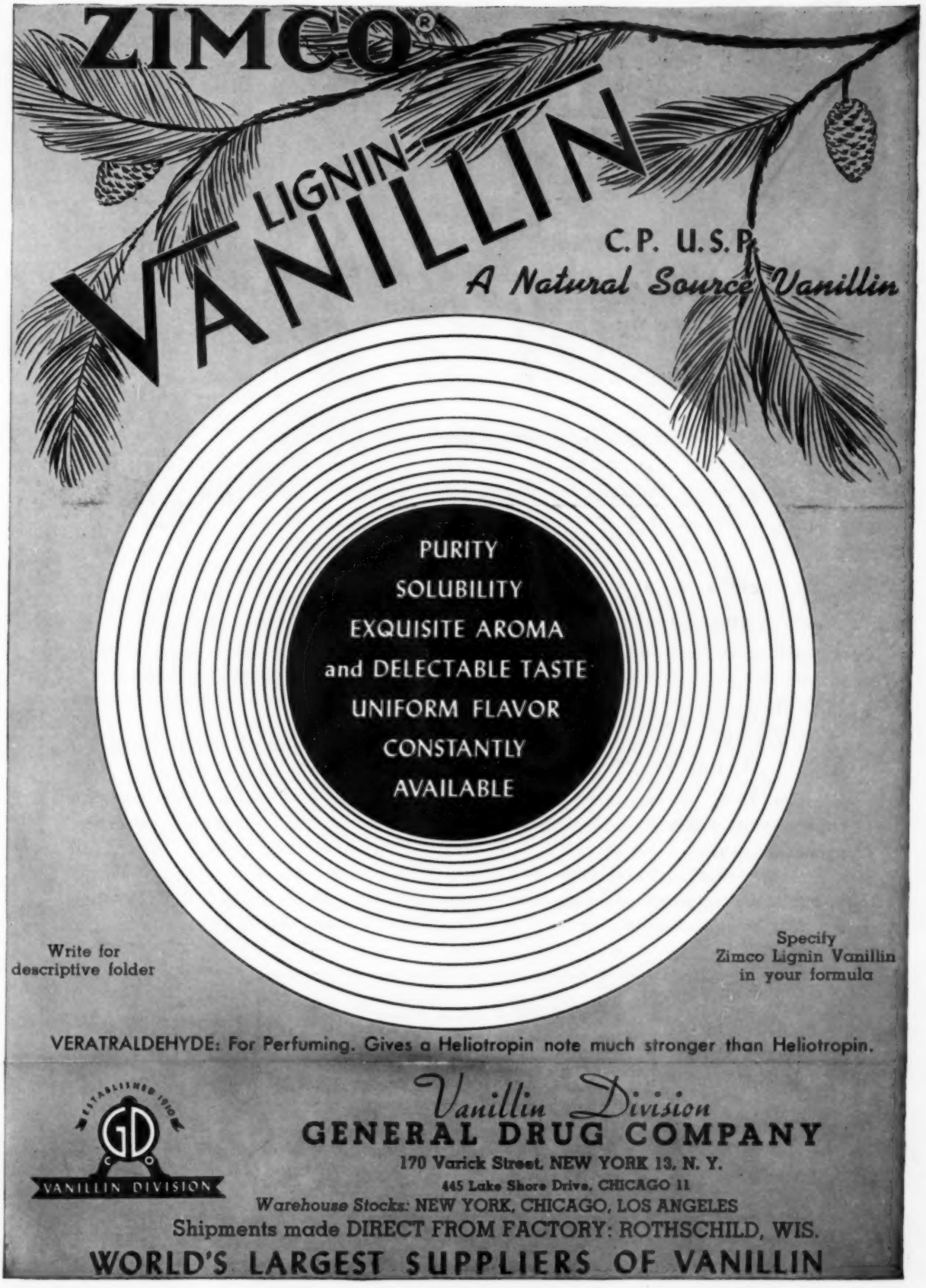
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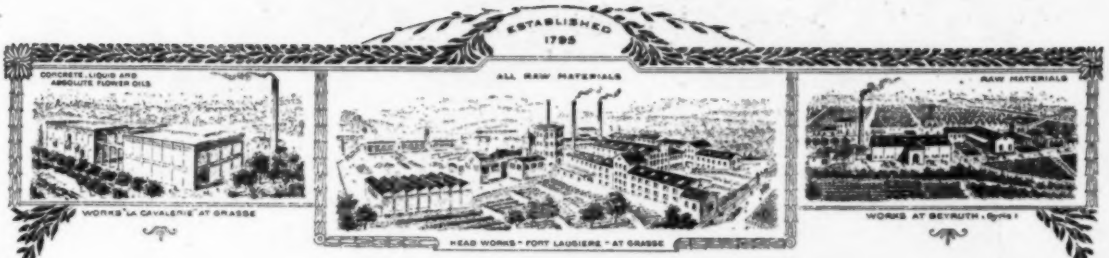

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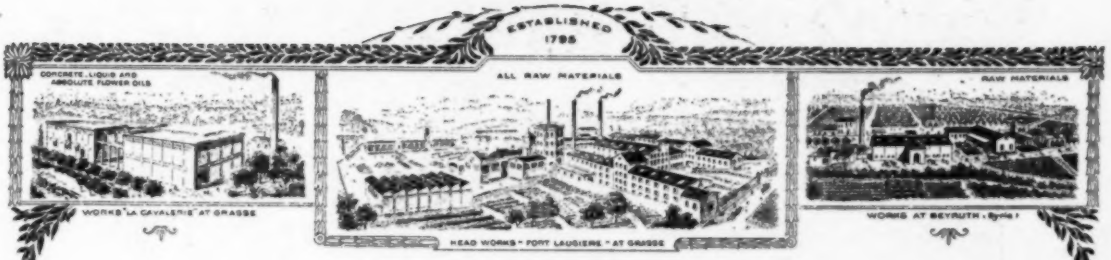

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Technical GLYCERINE NEWS

CLEANS AND LUBRICATES HAIR. Non-creamy, mildly lubricating, and effectively cleaning oil shampoos are described in a recent article in a leading publication. A typical formula contains mineral oil, sulphonated castor oil, perfume, preservative, water and glycerine. (D-7)

★ ★ ★

SULFATHIAZOLE NOSE DROPS are made with dl-desoxyephedrine hydrochloride, sodium sulfathiazole sesquihydrate, thiourea, water, and glycerine according to a formula published recently in a standard scientific journal. (D-8)

★ ★ ★

AN IMPROVED AURAL ANALGESIC, described in a recent formulary, contains antipyrine, chlorobutanol, benzocaine, and glycerine. In this compound, glycerine acts as an active component and as a vehicle for the other medicaments. (D-9)

★ ★ ★

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READY FOR GOLF? Golfers preparing for the first game of the season are advised by a leading pro to rub their hands with a mixture of glycerine, tannic acid, and alcohol.

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I should like to know the source of those items appearing in Technical Glycerine News which I have checked below.

☐ D-7 ☐ D-8 ☐ D-9 ☐ D-10

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It is used in:

★ hair tonics & fixatives
★ wave setting lotions
★ hair gloss preparations

2. **The breaking of many creams** is due to wrong interfacial tension factors. Estax 37 (a poly-oxy-ethylene ester) added in 2.5-3% largely removes that danger. A stable cream should have the right nonionic emulsifying (Estax) base. Technical advice is available free on the use of the many Estax Esters in cream and ointment manufacture.

3. **A good Perfume depends on the right fixative.** Thousands of gallons of blended perfumes are of poor quality and "cheap" character, because they lack the quality touch. The perfection of French blends is due to the correct choice of fixative. Watford's range of fixatives is used extensively by leading French houses to secure the intensely sweet oriental note that "sells" perfume.

4. **Pharmaceutical Chemicals** now available:-
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"You start in the secretarial department but you always end up here!"

KEEPING POSTED

Sickness Insurance Introduced

THE Bill to implement President Truman's compulsory sickness insurance plan was introduced into Congress late last month under the sponsorship of eight Democratic Senators and two Democratic Representatives. The Bill now becomes the Murray (Mon.)-Wagner (N. Y.)-Pepper (Fla.)-Chavez (N. M.)-Taylor (Idaho)-McGrath (R. I.)-Humphrey (Min.)-Thomas (Utah)-Dingell (Mich.)-Biemiller (Wis.) Bill. It was introduced in the Senate by Senator Elbert D. Thomas of Utah, and in the House by Representative John D. Dingell of Michigan.

The program is designed to provide medical, surgical, dental, and hospital care to 85 per cent of the people of the country, 120 million persons. It would be financed principally by a 3 per cent payroll tax on the first $4,800 of annual income, of which half would be paid by the employee and the other half by the employer, making the maximum tax on an individual's income $72, except in the case of the self-employed. To this amount the Government would add appropriations up to one-half per cent of payroll through 1954, and one per cent through 1947. The insurance would cover not only the worker, but also his immediate family. The Bill's sponsors placed the cost at $6 billion, which they declared would be only "slightly more than the approximately $5.5 billion our people are now spending for medical care." However, the nature of the Bill makes it impossible to forecast the cost since, although some specific appropriations are authorized, the measure would permit Congress in other cases to decide the amounts necessary.

In addition to the insurance provisions, the Bill provides for:

A broad medical research program.

Expansion of hospital construction, doubling the present $75 million authorization for Federal grants-in-aid.

An elaborate program of grants, loans, and other incentives to bring medical skills and facilities to rural and other shortage areas, with a $35 million appropriation for the first year.

Extension of the present program of grants-in-aid for state and local health work.

Stepping up grants-in-aid for maternal and child health and crippled children's services, providing a first-year appropriation of $35 million for various programs.

The insurance feature would be administered by a national health insurance board of five persons, working in conjunction with a national advisory medical policy council of seventeen members. Three members of the board would be named by the President, and at least one of them must be a doctor. The two other on the board would be the Surgeon General of the U. S. Public Health Service and the Commissioner for Social Security.

Antihistaminics for Colds

THE antihistaminic drugs, which are being used widely for control of allergic conditions—notably hay fever and asthma—are finding increasing application in the control of colds and other respiratory diseases. This stems from the work of Captain J. M. Brewster reported earlier this year in the U. S. Navy Medical Bulletin. Brewster reports that 90 per cent of colds were aborted in 21 cases receiving medication one hour after manifestations appeared, and 70 per cent symptomatic alleviation was noted in 165 patients who took antihistaminics twelve hours after cold signs were apparent. Duration of illness was shortened in cases where therapy was started too late to arrest the cold.

The difficulty with treatment of colds with these products is that medication must start at the "first sign of a cold," and the home medicine cabinet is not likely to contain this type of product since they are available only on prescription because of their sedative and other effects. This means that the doctor must be consulted, and this the average patient is not likely to do until the cold becomes unbearable. Also because of the sedative effect of these preprations, the patient must spend the day in bed—or at least in the house.

Further reports are heard that these products might be effective in controlling other respiratory conditions as well as insipient cases of tuberculosis. However, control of tuberculosis calls for a much earlier diagnosis of the disease than is usually possible.

Prescription Study Released

THE Prescription Study of the Pharmaceutical Survey, based on an analysis of 13,125 prescriptions collected during the Fall of 1946 from pharmacists in 186 villages, towns, and cities in 39 states, has been made available. Conclusions drawn from the study are:

1. Of the prescription, 62.5 per cent were new and 34.8 per cent were refills.
2. "Compounded" prescriptions, that is, those calling for one ingredient prepared (manufactured) by the pharmacist, or for two or more ingredients which he combined into a finished prescription, represented 25.9 per cent. "Dispensed" prescriptions, or those calling for a single item, official or nonofficial, which the pharmacist purchased and provided either in his own container or in the original container, with no further manipulation other than labeling, represented 74.1 per cent.
3. The first five leading forms of medication were: liquid (34.7 per cent), tablet (33 per cent), capsule (17.1 per cent), ointment (6.5 per cent), bulk powder (2.5 per cent).
4. Number of items written per prescription ranged as follows: one-item prescriptions, 77.4 per cent; two-item, 10.2 per cent; three-item, 6.1 per cent; four-item, 3.8 per cent; five-item, 1.5 per cent; six-item, 0.6 per cent; seven-item, 0.3 per cent; eight or more items, less than 0.1 per cent.
5. Physicians wrote 91.6 per cent of the prescriptions, dentists wrote 0.8 per cent, and the balance was distributed among veterinarians, homeopaths, osteopaths, chirodpodists, naturopaths.
6. Non-refillable prescriptions—either for legal reasons or at the prescriber's request—represented 17.1 per cent.
7. Average price was $1.45. The median price, or the price below which there were as many prescriptions as there were above it, was $1.00.
8. The most frequently occurring therapeutic class of prescription was the local anti-infective (15.3 per cent). Next were the vitamins (10.4 per cent); sedatives and hypnotics (9.2 per cent); antonomic (8.5 per cent); analgesic (8.4 per cent); gastro-intestinal (7.6 per cent); systemic anti-infective (6.7 per cent); cough preparations (5.6 per cent); hormones (5.7 per cent); cardiovascular (4.9 per cent); hematic (4.9 per cent).
9. At least one prescription specialty was contained in 60.8 per cent, at least one U.S.P. item was contained in 33.6 per cent, and 7.4 per cent contained at least one N. F. item.
10. To fill all the 13,125 prescriptions studied, disregarding geographic variations, a pharmacist would have to stock approximately 2,400 items, consisting of individual drugs as well as combinations and preparations.

In the order in which they occurred either as ingredients of the prescriptions or as prescriptions themselves, the first 30 items are:

1. Thiamin Hydrochloride.
2. Riboflavin.
3. Phenobarbital.
4. Glycerine.
5. Sucrose.
6. Nicotinamide.
7. Vitamin D.
8. Ascorbic Acid.
9. Codiene Sulfate.
10. Vitamin A.
11. Pyridoxine Hydrochloride.
12. Sulfadiazine.
13. Aspirin.
14. Menthol.
15. Acetophenetidin.
16. Calcium Pantophenate.
17. Sulfathiazole.
18. Codiene Phosphate.
19. Ferrous Sulfate.
20. Thyroid.
21. Sodium Chloride, Belladonna Leaf.
22. Camphor.
23. Lanolin.
24. Sodium Bicarbonate, Amaranth.
25. Ammonium Chloride.
26. Caffeine.
27. Penicillin.
28. Liver.
29. Sodium Bromide.
30. Chloroform.

This list gives striking evidence of the fact that doctors consider vitamins of paramount importance in the treatment of disease even though criticism of their use was profuse on the part of the medical profession when vitamin preparations were widely advertised to the public. While damning use of vitamins on the one hand, the medical profession evidently were prescribing them heavily on the other.

Inferences cannot be drawn regarding many of the items on this list because of methods of administration. Thus, while penicillin appears in 27th place, this includes mainly tablets, ointments, and forms of penicillin other than the injectable form which is so widely used. The injectable form is not, as a rule, obtained on prescription. It is supplied by the doctor or the hospital. Aspirin, in 13th place, is another indication that caution must be used in taking this list as a guide to the importance of the items on it. Most times, a prescription is not written for aspirin, the patient merely being told to take it at certain times. It can be obtained readily, and most often is already in the family medicine cabinet.

Schering Corporation To Be Sold

THE Government is expected to be ready by midsummer to sell the Schering Corp., now held by the Office of Alien Property. The Federal District Court for Southern New York has cleared the way for such a sale by dismissing a suit in which the Swiss Bank Corp. attempted to prove that Schering was its property and not German-owned. The Government holds all the common stock of Schering, and 42 per cent of the preferred stock. The remainder of the preferred is held by U. S. citizens. A prospectus for sale is expected to be issued in July or August.

Physicians Committee Disbanding

THE National Physicians Committee for the Extension of Medical Service, formed ten years ago as a means of combatting the need for compulsory sickness insurance or other forms of socialized medicine in this country, is winding up its affairs and will shortly be dissolved. The N.P.C. Board of Trustees states that the organization is no longer necessary as the American Medical Association has now created its own agency to carry on public relations and to further the extension of medical care. This new program of the A. M. A. "represents the fulfillment of the objectives for which the National Physicians Committee was created and toward which it has been working," says the Board. "During ten years of activity, the National

Physicians Committee has brought about the formation of forty-seven state committees of physicians and forty-six state committees of dentists, in addition to other local organizations, that have functioned vigorously and well. The Board of Trustees now suggests to the physicians making up the personnel of these state committees that they offer their services to the new American Medical Association agency."

Danish Insulin Patent Returned

A DANISH patent relating to protamine insulin, seized during the war, has been returned to its owner by the U. S. Alien Property Custodian. Attorney General Tom Clark also ruled that the owner, Nordisk Insulin Laboratorium of Denmark, is entitled to collect $1,100,000 in accrued royalties from American manufacturers. These manufacturers used the patent and set royalties aside during the period the patent was in the hands of the Alien Property Custodian. The patent was seized after the Germans occupied Denmark.

Carson Named for F.T.C.

WHILE President Truman has nominated John Carson to fill the vacancy on the Federal Trade Commission created by the resignation of Robert Freer, considerable opposition seems to be building up concerning the confirmation of Mr. Carson's appointment by the Senate. Objections range all the way from the fact that Mr. Carson is an independent in politics and not a Republican as required to fill Commissioner Freer's place, to the fact he is affiliated with the Cooperative League of the United States, which is said to be an organization of consumer cooperatives sponsored by and promoted by the CIO, the Communist Party and radical groups. It appears that a full dress hearing to consider Mr. Carson's confirmation will be necessary on the part of the Senate Committee.

Study the Havana Charter

THE Havana Charter for an International Trade Organization is attacked by Philip Courtney, president of Coty, Inc., in a recently published book entitled "Economic Munich," published by the Philosophical Library. This Charter is to be submitted to Congress shortly for ratification and it is of major importance to all businessmen in this country. In short it constitutes a change from a national private enterprise system to an international planned economy. There is much controversy on the subject since most persons favor an International Trade Organization for study and negotiation of international economic problems, but many feel that the Charter is very imperfect and carries dangerous implications.

For those who wish to brief themselves on the subject there are, besides Mr. Courtney's work, the following publications against ratification of the proposed Charter by Congress: The Winter Number, January 1949, of American Affairs, National Industrial Conference Board, New York; Report of a Special committee of the American Bar Association, November 1948 issue of "Business Lawyer;" Resolution of the New York Board of Trade, September 1948; Resolution of the Chamber of Commerce of the United States, April 1948; Resolution of the American Tariff League, October 1948; Bulletin No. 1600, January 24, 1949, of the National Foreign Trade Council; Resolution of the Synthetic Organic Chemical Manufacturers Association, February 1949; Resolution of the National Association of Manufacturers, March 30, 1949.

Two publications which favor ratification of the Charter are: "A Charter for World Trade," by Dr. Clair Wilcox, published by McMillan Company; and Resolution of the National Council of American Importers, December 1948.

Christian Scientists Object

INTERESTING is the objection of the Christian Science Church to pending Social Security legislation. Through James Watt of Washington, the Church stated that the addition of disability insurance to the old-age and survivors' insurance "is something very objectionable to Christian Scientist." He said further, "It would require them to pay for and accept disability benefits exclusively of a medical nature and under medical supervision. Christian Scientists successfully rely wholly upon prayer and spiritual means for the treatment and cure of human ailments. Medical examination, supervision and treatment are directly contrary to the teachings of their religion and, if forced upon them, would interfere with their constitutional rights to practice their religion freely.

"We would like to request that H. R. 2893 (the Social Security expansion bill) be amended so that Christian Scientists will be completely exempted if they so elect; or if not, so that they will receive benefits upon the certification of an accredited practitioner of healing by prayer or spiritual means and without medical examination, supervision or treatment."

Adverse Fair Trade Publicity

THE publicity that fair trade is receiving from its application in industries other than the drug and cosmetic industry is not doing fair trade any good. Department stores are complaining about the discount houses which are selling sterling silverware, radios, television sets, refrigerators and other household applicances below the fair trade prices of manufacturers to which the department stores must adhere. Department stores complain that they are tired of acting as showrooms for so-called discount houses in these fields. Volume lost on fair traded merchandise to discount houses has "passed the stage when department stores can ignore it," said a department store official recently. So far as fair trade laws covering the products of this industry are concerned, the department stores generally never looked upon them with favor, preferring to attract people to their stores by making loss-leaders of many of the products of this industry. Because of the relatively low value of the great bulk of the products of this industry, and because of the alertness of manufacturers of this industry, prices have been very well maintained and no retailers have had any complaint about other retailers cutting prices. It is just too bad for manufacturers in this industry that fair trade is not as successful in other industries as it has been in this one.

The only thing that this industry can do is to continue to build up its clean record under fair trade. Prices must be advanced, only where absolutely necessary, and prices should be reduced whenever the opportunity presents itself. It is up to the manufacturers in this industry to prove that fair trade prices do not penalize the general public by giving the manufacturer too large a profit or by covering up inefficiencies in manufacturing and distributing operations.

Ammonia-Urea Dentifrices

THE ammonia-urea dentifrice formula is affecting the dentifrice market in a startling way. Not only has the R. L. Watkins Division of Sterling Drug, Inc., makers of Dr. Lyons Tooth Powder—the leader for many long years—introduced a product of the new type, but many other leading dentifrice manufacturers are planning to enter field with similar products.

Bristol-Myers, Colgate, Lehn & Fink, Pepsodent, Walgreen, Comfort Manufacturing Co., and Sparkle Products have recently been licensed to enter this market.

We reported on this new development in October, 1947, pages 524 and 525. At that time we reported the work of R. G. Kesel, J. F. O'Donnell, E. R. Kirch and E. C. Wach on control of dental caries with a mouth rinse and tooth powder containing dibasic ammonium phosphate and urea as the main ingredients. Complete formulas for the rinse and the powder were given. At the present time the University of Illinois has a patent pending on this combination. Licenses are being granted by the University of Illinois to those desiring to enter the field.

Although the formula developed by the originators called for a powder type of preparation, and while it has been said that a paste could not be used because of hydrolysis resulting from the water present, an ammonia-urea tooth paste is now on the market. It is said that despite any remarkable therapeutic effects resulting from use of the ammonia-urea powder, users are attracted most strongly to it by its extremely pleasing after taste. Advertising claims for the products are quite strong in that the claim is made that the product will prevent tooth decay.

Manufacturers of widely distributed dentifrices are going to bring the ammonia-urea preparation out under names differing from the names of their established products. This indicates a desire of these manufacturers to get into the market for the new type dentifrice on the chance that it might really amount to something big, while at the same time indicating a lack of confidence in the permanence of the market for the new product.

Manufacturers must realize that label claims stating that the product will lessen tooth decay bring the products under the drug provisions of the Food, Drug, and Cosmetic Act. Most dentifrices are now under the cosmetic provisions of the act. Federal Agencies are non-committal as to the claims made for these preparations, contending that sufficient evidence is not yet available to substantiate the claims made.

Early this month, the National Better Business Bureau issued a bulletin discussing claims for this type of dentifrice. The bulletin states: "While it would appear to be permissible to claim that conscientious brushing of the teeth with a properly formulated ammoniated dentifrice, as instructed, may aid in the prevention of dental caries, absolute claims for preventing tooth decay or caries activity should not be made."

Fair Trade Invalid in Florida

THE adverse Fair Trade Act decision in Florida is causing manufacturers in this industry much concern. In a six to one decision, the Florida Supreme Court has declared the Fair Trade Act of that State invalid. Manufacturers are afraid that this might indicate a new feeling regarding fair trade legislation which might eventually mean the death of fair trade as we have known it for some years. The Florida decision, while referring to the question of the constitutionality of the Act, did not turn on the question of constitutionality. Rather was the decision based upon the view that use of police power should be "restricted to those things which of necessity affect the public morals, public health or public safety." Also the decision states that: "Constitutional law never sanctions the granting of sovereign power to one group of citizens to be exercised against another unless the *general welfare* is served. The effect of this act is to grant by indirection sovereign power to one person (not necessarily a citizen) to be exercised against another."

Unfortunately for the welfare of fair trade legislation, the case involved resale prices on liquor. This gave the court the opportunity to include in the decision the following:

"There is yet another reason why relief should be denied this plaintiff. The answer discloses that this plaintiff is one of about forty subsidiary corporations—all owned and controlled by Publicker Industries, Inc., a Pennsylvania corporation; that this parent corporation and four other corporations control eighty to ninety per cent of the alcoholic liquors in the United States; that these several corporations utilize numerous brands and are taking advantage of this act to create monopolies in alcoholic liquors and coerce this intervenor and other to pay arbitrary, excessive prices, thereby fixing prices and wholly stifling competition. This allegation is not controverted. His contract is, therrefore, contrary to public policy and void, and relief should be denied even though the act is not constitutional."

Deductible Health Insurance Plan

REPRESENTATIVE Reva Bosone, Democrat of Salt Lake City, has what appears like a very sensible approach to the question of sickness insurance. Her plan is to issue a $50 deductible sickness insurance policy after the manner of the policies which are now generally in effect in automobile collision insurance. She says:

"Why can't we work out a government $50 deductible scheme for health insurance? The people who find it hard to pay doctor bills are those who have had operations. That's what gives them their worries. This $50 plan would insure that when a family met with a real disaster the costs would be taken care of. But the family would continue to pay its own small bills."

Proponents of Mrs. Bosone's plan think it would eliminate many of the objections to the administration plan of compulsory sickness insurance under which the government pays all the bills, both small and large. Mrs. Bosone sees in her scheme a plan to rid sickness insurance of the hypochondriacs who would use up the doctors' time under the administration scheme.

The Food and Drug Administration is understood to have made a seizure of Imdrin, a product for relief of the pain of arthritis. The basis for the action appears to be the Supreme Court decisions which stated that the FDA has the right to consider advertising in determining whether or not labels are in violation of the Food, Drug, and Cosmetic Act. It is said that certain pieces of the company's literature conveyed the impression that the product constituted a treatment for arthritis and rheumatism, whereas other carefully read pieces contained qualifications which indicated that it was only of value in relieving the pains and discomforts of such conditions.

Export Controls Discontinued

EXPORT controls were discontinued April 28 by the Department of Commerce on 500 items. This action enables exporters to ship these articles to any part of the world without licenses, but is particularly significant in freeing these items for shipment to Europe, including Eastern European nations. Items of this industry affected include:

Biologics for human and veterinary use, Cholesterol, glandular products, tincture of iodine, menthol, tyrothricin, antipyretics and analgesics, aspirin, bismuth tribromphenate, barbiturates, Narcotics (bulk), cinchona alkaloids (except quinidine and its derivatives), medicinal alkaloids and salts, parenteral solutions (excluding biologics, glandular products, antibiotics, and narcotics), calcium phosphate, acetylcholine, betaine hydrochloride, calcium gluconate, bromisovalerylurea, cinchophen, chloral hydrate, choline chloride, hestidine hydrochloride, diodract concentrated solution, iodophtahalein, rivand, sphynal, prostigaine ampuls vasodilator, sodium benzoate, malaria, chill and fever remedies.

Also dental creams and other dentifrices, talcum powder in package and compact powder, creams, rouges and other cosmetics, manicuring preparations, depilatories and deodorants, hair preparations, packaged and bulk liquid and solid perfumes, packaged and bulk toilet waters, other toilet preparations.

Drug Export Information

THE April issue of "World Trade in Commodities,—Drugs and Toiletries," contained interesting tables giving the export totals for various types of drug products for the years 1946, 1947, and 1948. Export totals for medicinal chemicals, antibiotics, vitamins, proprietary medicines, and druggists preparations to various parts of the world are also listed for the same three years. This particular issue, available from the Government Printing office for 5 cents, is Vol. VII, Part 3, No. 35. Yearly subscription is $1.50.

Proprietary Association Movie

LAST month in Washington, the Proprietary Association held the premier of the Association's documentary film "For Us The Living." Present were many of the Government officials responsible for enforcement of the laws under which the industry operates. Many of these officials appear in the picture which is a twenty minute production in beautiful color. The picture will be shown throughout the country in schools and clubs. It is now being distributed and it is expected that more than 10 million people will view it within the next eighteen months.

Government officials who aided in the production of the picture are: Federal Security Administrator Oscar Ewing, Special Aid to the Administrator John Russell, Food and Drug Commissioner Paul Dunbar, Food and Drug Administration official George Larrick, U. S. Public Health Service Surgeon General Leonard Scheele, Federal Trade Commission Official William King. For the Proprietary Association the work was done by Lambert Pharmacal Co. President E. T. T. Williams, chairman of the Association's Public Relations Committee; and Bristol-Myers Vice-president George McMillan, member of the Association's Public Relations Committee. The Editorial Board which passed on the script for the picture included John Russell, George Larrick, William King, E. T. T. Williams, and George McMillan.

The picture is a real tribute to those who conceived and carried out the idea of obtaining the cooperation of government officials in producing a picture of this sort. A viewing of this picture will give the average citizen of the country an insight to the way in which the industry is regulated by the Government to assure safety of the products of this industry.

Cosmetic Exports in 1948

COSMETIC exports in 1948 declined 41 per cent from 1947 to a total of $14,360,170, which figure was about 2 1/3 times that of 1938, according to T.W. Delahanty, Chief, Consumers Merchandise Branch, U. S. Department of Commerce. The phenomenal contraction of trade with India accounted for a $6 million decline. Excluding that country, exports declined only 22 per cent. Dentifrices, the top export item in 1947 and 1948, dropped 43 per cent, of which decreased shipments to India accounted for 42 per cent. Hair preparations, second in value, were down 35 per cent from India and United Kingdom, markets responsible for ¾ million dollars in 1947 against less than $1,000 in 1948, being responsible for more than half the decrease. However, significant gains occurred in shipments to Canada, which quadrupled the 1847 demand, and to Venezuela, with a third more.

The Philippines remained the leading market with $1,268,520, a 5 per cent decline. Talcum powder shipments slumped 61 per cent primarily because of the decrease of over $1 million in shipments to India. Face powder and compact powder, down 14 per cent, and all creams, lotions, and balms, off 40 per cent, were also affected by the loss of the Indian market. Lipsticks decreased 32 per cent with about ¼ of the decline attributed to contraction of Mexican demand. Perfume and toilet water were off 41 per cent because of reduced shipments to India, the Union of South Africa, Mexico, and Venezuela, which countries accounted for about two-thirds of the decrease.

McK. & R. Sales and Earnings Steady

IF THE sales and earnings of McKesson & Robbins—nationwide wholesale druggist—mean anything, it would appear that the drug business is on a very even keel for the past nine months. McKesson sales for the nine months ending March 31, 1949, were $272,408,614, an increase of $1,864,257, over net sales of $270,544,357 for the nine months ending March 31, 1948. Profits for the nine months ending March 31, 1949, was $6,737,678, or $3.75 per share, against $6,764,363, or $3.76 per share for the nine months of the previous fiscal year. And the first quarter of this year was also on a very even keel with a profit of $2,007,185, or $1.11 a share, against a profit of $2,007,890, or $1.11 a share for the first quarter of 1948.

Fair Trade, Educational Bureau Formed

IN AN EFFORT to offset the activities of many groups and individuals to undermine Fair Trade legislation, the Bureau of Education in Fair Trade has been formed. Chairman of the Bureau is N. A. R. D. Executive Secretary John W. Dargavel, and other officials are F. W. D. A. Executive Secretary Ray C. Schlotterer, N. W. D. A. Executive Vice-president E. L. Newcomb, and N. A. C. D. S. Secretary-Treasurer Carl Willingham.

THE DANGER OF

THE demand of the Food and Drug Administration for an amendment to the Food, Drug, and Cosmetic Act authorizing general certification of the products of the industry is one of the most serious matters of Government regulation which has faced manufacturers in many years. As is generally known, the matter has arisen because of the original request by the Food and Drug Administration that batches of penicillin be certified. The idea of certifying penicillin was based on the fact that it was a new item with production methods still in a state of flux at the time of the request for certification. The manufacturers generally backed the FDA in its successful effort to obtain an amendment for certification of penicillin.

With the appearance of streptomycin on the scene, the FDA requested an amendment for certification of that antibiotic also. Generally speaking, the manufacturers did not support the FDA in its request, although they did not oppose it. Therefore, the FDA obtained an amendment for certification of streptomycin.

At a later date, the FDA desired authority to certify still three more antibiotics and asked industry assistance in obtaining this power. However, the FDA told the industry that sooner or later Congress would demand a general amendment to the law setting forth provisions for adding new antibiotics without special legislation in each case. Of four firms affected by this new request, two asked directly for certification, and of the three antibiotics involved, two were already on the market. Effective new drug applications, therefore, indicated that these products were considered safe for marketing in that way by the Federal Security Administrator.

The industry was somewhat puzzled by a situation where under the law the Administrator said that in the case of Section 505 a drug is safe for use, but then turned around and said it also needed certification to make it safe for use. Therefore, the industry agreed to support an amendment to add the three new antibiotics—aureomycin, chloramphenicol, and bacitracin—and then to sit down with the FDA and carefully and deliberately study the matter of a general amendment for certification. In a meeting with the Food and Drug Administration on the subject of a general amendment, the industry laid down a five-point agenda for the more detailed discussions that followed. These points were:

1. That definite and serious consideration be given to decertification of crystalline penicillin G, dihydrostreptomycin, and streptomycin sulfate.

2. That the basic question of why drugs should be certified be explored, and the question of what is wrong—if anything—with the New Drug provision of the Food, Drug, and Cosmetic Act be answered.

3. That the definition of an antibiotic be thoroughly explored.

4. That it be determined what specific criteria should apply in deciding what antibiotics would be subject to certification.

5. That there be determined the specific criteria which would insure prompt and timely certification.

Recently the FDA announced that it will exempt crystalline penicillin from certification by action of the Commissioner of Foods and Drugs. However welcome this action may be to the industry, the feeling exists that a "serious full dress show" and the strongest marshalling of the industry's forces were necessary to bring about this decision which should have been entirely voluntary on the part of the FDA.

As the result of these discussions, industry representatives have come to the following conclusions: 1. That the FDA is determined to have certification for all new antibiotics possible; 2. That limitation to antibiotics is purely arbitrary; 3. That, therefore, the industry must act with the realization that certification eventually might spread out and engulf the entire field of drugs; 4. That the FDA now views certification as the ideal type of drug control.

Apparently the Food and Drug Administration is desirous of changing the methods of control which became effective only ten years ago through enactment of the Food, Drug, and Cosmetic Act. However, manufacturers generally, and the Food and Drug Administration state flatly that the prime responsibility for quality of drugs is that of the manufacturer. Surprising as it may seem, some manufacturers appear to have the erroneous impression that certification relieves them of that responsibility, and that the FDA has taken over the job of worrying. This is far from the truth and the FDA officials will say so. A handful of men, no matter how well qualified and trained, cannot supervise, control, and assure the safety of all drugs made throughout this nation.

Many manufacturers in this industry are not behind the fight of the majority of important manufacturers to prevent enactment of legislation which would eventually bring about certification of all drug products. The reasons why these manufacturers are not part of the opposition to such an amendment are threefold. First there are those manufacturers whose labels are not very important from the standpoint of the prescribers or users of their products. These manufacturers have the impression that certification would help to put them on an equal footing with all other manufacturers so far as acceptance of their products is concerned. Then there are those individuals who always want to be active in promoting a new idea, especially if the idea appears to them to have an aspect of social significance. This helps to bolster their ego

through the false impression that they are working for the good of humanity and also through the publicity and approbation which they might obtain through their efforts. Then there are those manufacturers who are totally ignorant of the true significance of what lies behind this request for a general certification amendment.

As far as the leveling of the products of all manufacturers to one common plane is concerned, this is not a desirable thing. Certainly the pharmaceutical industry in this country has not risen to its present position of world preeminence by making products to minimum standards. The leading firms in the industry have gained their high positions by developing original methods of improving quality, assuring potency, improving the forms of the preparations, as well as by creating formulation and packaging methods which have resulted in greater stability. Furthermore, they have developed methods of marketing their products that has won high respect and the goodwill of those who distribute their goods at various levels. It is to the interest of every company in the industry that this method of gaining success in the marketing of drug

CERTIFICATION

products remain in force and that it not be replaced by government approval of a product. General certification would eliminate all incentive for manufacturers to engage in research to improve their preparations, manufacturers being content to make them to the minimum standards required by the government since nothing could be gained by any extra effort or expense expended. Certainly it cannot be said that it is impossible for new firms to enter the industry and rise to positions of prominence, nor can it be said that it is impossible for small firms to become big ones under the methods that have always been in force.

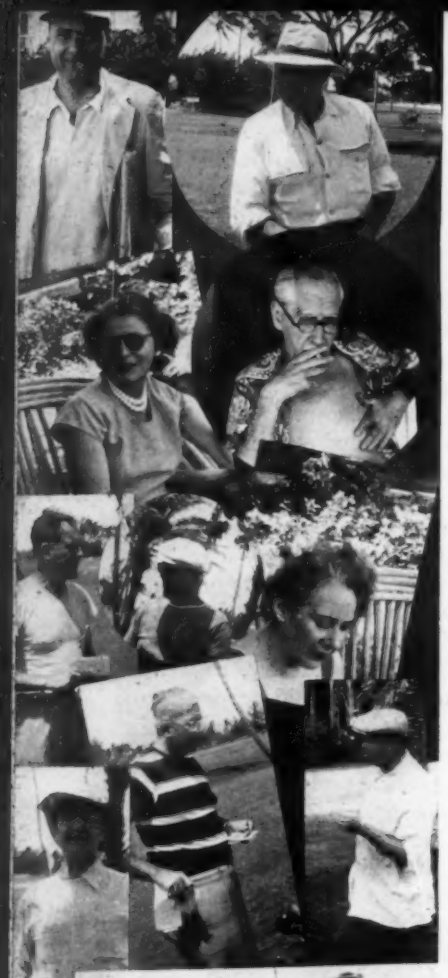
A study of the industry today will reveal quite a large number of firms which were not in existence some fifteen or twenty years ago, as well as a large number of firms who have multiplied their output of drug products many times in that period. The remarkable growth which has taken place in this industry within the last fifteen years has been spread widely throughout the industry, although the firms who were the leaders years ago have likewise reaped the benefit of the general expansion and still stand in relatively high positions. However, it will be found that a number of the firms who were far below these leaders ten or fifteen years ago have grown at a far more rapid rate than that at which the leaders have expanded, and thus stand in better relative positions than was formerly the case. There is certainly no need for anyone who has the interest of this industry at heart to support any such amendment as the FDA is proposing. Furthermore, there is certainly no reason for anyone interested in the progress of sound therapeutics, which is continually resulting in greater benefits to mankind, to favor any such amendment of the existing law.

If one will but look back upon the record of this industry since the enactment of the Food, Drug, and Cosmetic Act in 1938, he will realize that under this law, as enacted eleven years ago, and enforced during the last ten years that it has been effective, the greatest advances in therapeutics of all time have occurred. New products introduced during that time have been tested clinically before they have been allowed to be distributed generally. The control of products on the market has been much more nearly perfect than at any time in our history. The medical and other professions using the products of this industry, as well as the public, rightly have greater confidence in the products marketed for the maintenance of health than at any other time. There has occurred a complete reversal on the part of the medical profession from the prescribing of fresh sunshine, and rest as a cure for almost everything, to the use of specific drug preparations for restoration of health. This swing has been the result of the sharp competition among manufacturers to produce new and better drug products for the alleviation and cure of an increasing number of ills which plague mankind.

Regardless of the ultimate effect which such a change in drug control would have upon the future of this industry and upon the future of progress in medicine to the detriment of the health of man, there will always be those who will be interested only in their own progress at the moment. These people will fight tooth and nail to change the rules so that they can gain a foothold through their ability to make products to the minimum standards which would be required by the government. Then there are those who will fight for such a change in the belief that it will widen the scope of the industry by resulting in a general lowering of prices for drugs to the end that more people will be able to use the products of this industry and be benefited thereby. Such a viewpoint completely overlooks the fact that the real benefit to the general health is resulting from the intense research and development which is creating new products not only to conquer diseases more surely and more swiftly with a great decrease in the cost of medical care, but also to conquer diseases which previously were uncontrollable. The price paid for a drug is dirt cheap if it immediately cures a potential case of pneumonia or some other disease which might otherwise result in prolonged hospitalization, nursing care, and disability. And this is what many of our recently developed drug products are doing.

To those who are not fully acquainted with the implications of an amendment such as the FDA proposes, we advise close study of the situation for their

(*Continued on page 640*)



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R. LINCOLN McNEIL

INCREASED public emphasis on good health is the reason why R. Lincoln McNeil, president of McNeil Laboratories, and reelected president of the American Drug Manufacturers Association, gave for his forecast, before the recent ADMA annual meeting, that 1949 drug store sales volume will hold its own despite declining sales in other retail fields. Both Mr. McNeil and association Executive Vice-president Carson P. Frailey devoted the major parts of their annual addresses to the inter-relationship between pharmaceutical manufacturers and dispensing retail pharmacists. Stating that predictions have been made that total consumer income might decline 6 per cent by the end of the year, Mr. McNeil stated that "retail drug volume may equal 1948, or at worst the decline should not exceed two per cent.

Since pharmaceuticals represent such a stabilizing force in retail drug store volume, said Mr. McNeil, all segments of the pharmaceutical production-distribution team have an important community of interest, adding:

"The wholesale and retail distributors of our pharmaceutical products are all part of the very important health team which moves drugs from the scientist's test tube to the patient's bedside. We can make the products and inform the doctor about their usefullness, but we still must remember that without the help of the retail pharmacist, the public could not benefit from the fruits of modern therapeutic research."

"Despite the nostalgic yearnings some of us may have for the good old days in Pharmacy when the man behind the counter actually compounded most of his prescriptions," Dr. Frailey said, "we must face the fact that the dramatic advances of modern American medicine and Pharmacy have brought about significant changes in the character and practice of the profession. While some have viewed these developments as deteriorating the position, and destroying the rationale, of the profession, I cannot accept this view. The rapid growth of the modern pharmaceu-

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tical industry, with its tremendous investment in basic and applied research, last-minute production facilities, and exacting control systems, has served to free the practice of Pharmacy—at the dispensing level—from much of the hand labor that was previously involved."

Reporting for the Legislative Section of the Association, Chairman Leslie D. Harrop dwelt at considerable length on the attempt of the Food and Drug Administration to obtain a general certification amendment to the Food, Drug, and Cosmetic Act and thereby become the sole arbiter on questions of efficacy of drugs. From discussions with FDA officials regarding a general certification amendment, Mr. Harrop said his committee had arrive at "certain inescapable conclusions." They are:

1. That the Food and Drug Administration is determined to have certification for all new antibiotics that can be gathered into the fold.
2. That the limitation to antibiotics is purely arbitrary.
3. That from the foregoing we must make our decision not limited to its effect on antibiotics but with realization that eventually it will spread out and engulf the entire field of drugs.
4. That certification is now viewed by many in the Food and Drug Administration as the ideal type of drug control.

"We and the Food and Drug Administration say flatly the prime responsibility is that of the maker of the drugs. Unfortunately some of our own members have a misguided idea that certification relieves them of that responsibility. They feel that a government bureau has taken over their job of worrying. This is not true. No people in the world would deny it more quickly than those in the Food and Drug Administration. How can a handful of men—no matter how well qualified and trained—supervise and control and assure the safety of drugs made all over this land?

"Certification is not a shifting of responsibility. It merely adds one more check to the many checks and assays and tests that every one of our members imposes upon each of his products. If there is no inherent difficulty in the assay method; if there are no unusual vagaries in the product; why repeat and repeat and check and check the results over and over again? Of course each additional check adds

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RETAILERS' RESPONSIBILITY

P. G. WINNETT, president of Bullock's, Inc., one of the leading department stores of the United States, says in an interview with Women's Wear Daily that 46 per cent of present Bullock executives have been with the company for less than five years. Commenting on this statement, the writer observes that this is a shockingly large percentage, although he has no doubt that in this respect Bullock's is very little different from any other large retail outfit in the country.

This comment will receive hearty mutual agreement from many observers who have felt that the enormous turnover both among retail executives and salesgirls, is a serious fundamental weakness which must be overcome if renewed aggressive selling is going to play its expected and prominent part in injecting new vigor into our production and our economy.

The fact that our retail buyers and merchandisers lack the experience and the training that can properly reflect the personality and the ideal of a major store in a community, must present a very serious problem to store owners who have built their businesses by identifying their stores in their communities with character that has won public esteem, and in some few cases, public affection.

This writer states that he is continually hearing complaints from manufacturers that the merchandise they present to buyers is "pushed aside and belittled chiefly for the reason that the buyers themselves are ill-informed with regard to what really represents quality." Said one producer, "They know nothing about materials and evidently they do not want to learn."

This industry has frequent experiences with the buyer who knows nothing about the historical traditions of the trade, the painfully built-up reputations of some manufacturers, the elementary basic experiences upon which to form an estimate of quality or an understanding of consumer wants, which would enable him to distinguish between a false or fleeting enthusiasm and a sustained well-founded interest. Even more tragic, there are buyers who, if they do know, have a cynical and callous disregard for inherent value.

There is a certain toilet goods buyer of a major store in this country who was appointed to this position after more than 10 years association with a cosmetic manufacturer where he had been employed as the cosmetic chemist. Shortly after he assumed this position as toilet goods buyer of a leading department store, a friend remarked to him that he must occasionally be amused at the presentation of a cosmetic salesman, when a quick examination of the product would very soon enable him to make an objective appraisal of the quality of the product. This friend was assuming that a good technical or chemical training in formulating and manufacturing cosmetics was an unusual but a very valuable asset to a buyer of cosmetics. However, this buyer replied, "When any salesman comes in to see me I never take the cap off the bottle or the jar. I don't give a damn what is in it; all I want to know is will it sell."

Not too long ago this industry went through a few months period where a new product caught popular fancy in an amazing splurge of retail and public buying. Several companies jumped into the manufacture of this product without any chemical preparation or testing and with heavy mass advertising, mostly in the quick action space of newspapers. Many millions of units of this product were sold in a few months and then almost as suddenly as it had appeared, this product was no longer visible on the cosmetic scene. The sad truth is that this product did not live up to the promise of the advertising. It failed to do its job and several millions of dollars which the consumers had spent for this product was not only wasted, but to a not yet determined degree it left a very sour taste in the mouth of the public for a parallel and thoroughly legitimate type of cosmetic.

One manufacturer who had viewed this entire episode with distrust and distaste happened to remark to the buyer of one of America's finest stores, "Why did you get behind that sort of stuff and accept so much newspaper advertising, identifying your store with that kind of product, when you knew that it was not only sensational, not only unproven, but obviously open to very grave suspicion?" This buyer remarked with a very cynical laugh, "You are not trying to blame me for making a few bucks, are you?"

It would be interesting to stop and observe here that there are two alternate conclusions which could be formed from this type of operation. One conclusion would be that when the public is deceived and is in-

duced to spend its money for a product of inferior quality not worth that money, or for a product which fails to perform, then the public does not attach any blame to the retail store, but fastens all its resentment on the manufacturer whom they identify through that brand. It would be very difficult to persuade us that this is entirely true.

But if this conclusion is true,—that the public absolves the retailer when they are misled or deceived in the quality of a branded product,—then we must assume that a great deal of the thinking and the philosophy which has entered into the theory of selected selling is without foundation.

In selected selling a primary factor in the selection of any store by a manufacturer is that there is a high degree of compatibility between his ethics as a manufacturer and the way in which he conducts his business and the ethics of the retail store and the way in which it conducts its business. It is commonly supposed in the case of a prestige manufacturer, or one seeking

FOR PRESTIGE

By FRAZER V. SINCLAIR

prestige, that the association of his company name and the brand name of his product with a leading respected retailer in any community is a powerful asset which he must attain and retain.

But if we follow the conclusion stated above, that the public places no blame on the retailer in the sale of a product which completely fails to give any satisfaction, then we must, of course, seriously question whether that retailer has any such thing as what we commonly define as store clientele and whether it has the loyalty and the esteem of the people in its community. Certainly tactics of this kind are the tactics that we might expect from any one depending upon purely transient trade.

It is difficult to make such business methods conform to the philosophy of business that must rule an institution which stands out in front of all its peers in public esteem. And yet, we must accept the sad fact that these conditions do prevail, that they are shockingly widespread, and that one primary cause must certainly rest in this rapid turnover of executives which denies the individual either the time to adjust his temperament to the philosophy of the store or to acquire an elementary education in the purchase and sale of the commodities for which he is responsible.

The other conclusion must be that the store is held at least equally responsible with the manufacturer by a dissatisfied purchaser. The more this store has acquired a reputation for specializing in quality merchandise or for good value or for integrity, the more the store must suffer for this action of its employee. If we accept the fact, which I believe to be true, that many great retailers have reputations and prestige in their communities that equal or exceed that of any manufacturer entering their communities, and if we further accept the fact that it is a general practice in the manufacturing industry to fortify localized reputations by associating manufacturers names with those of the stores in such things as cooperative advertising and store display, then we must further accept the fact that where a store is injured by such acts of an employee that all of the manufacturers in that department, to some degree, have suffered in their standing in that community.

Although there are no facts available to prove a statement of this sort, the recent episode referred to above has generally brought about a conclusion in the industry that there has been a mutual loss in public confidence and public buying for both retail stores and for manufacturers of allied products.

Everything that we have said about the status of the retail buyer and merchandise manager may be applied with equal force to the retail sales clerk. If these two business executives bear the responsibility for the choice and the selection of the merchandise offered their clientele, then of equal importance to the manufacturer is the fact that the retail salesgirl or sales clerk bears the full responsibility of selling and moving these products into the hands and the homes of the consumer.

If because of this excessive turnover, manufacturers find that retail people have no basis upon which to appraise the relative quality of their goods and their standing in the industry, if they are unable either to buy or to sell with adequate knowledge and in the spirit and the tradition of their store, then we are certainly arriving at a point where all industry, including retail executives, manufacturing executives, and the producers who supply materials, must recognize this as one of the primary obstacles to a revival of healthy vigorous business.

RESEARCH AND NEW PRODUCTS

By GUSTAVE J. MARTIN, Sc.P.

SALES organizations and sales management share many of the overlap problems between management and research. The success of sales management depends upon the current gross volume. This naturally leads to views opposed to those of research. Sales desires to maintain volume even if it takes one hundred new products a year. Sales rarely accepts the fact that they have no reasonable chance of properly marketing one hundred products. Research wants sales to establish the maximum number of products on which a real job can be done. Research hates to see its ideas wrecked on the unproductive concept of casting the bread upon the waters. If sales would, by study of the market, determine the maximum number of items which can be reasonably put across in one year, then Research could aim at that number and do a better job on each one. Both Research and Sales could do a better job on a smaller number of products. Sales tends much too much toward the idea of "Let's add the product; we won't do any promotion on it; it can't possibly hurt our general program; and we will sell a few thousand dollars worth in a year."

Sales should permit Research to have a voice in establishing expected, estimated, anticipated volume on a new product. Sales naturally will underestimate, and Research overestimate the actual potential; but if both are permitted an estimate, there is a better chance of accurate forecast. Some test of the mettle of a sales organization should be imposed and Research should have a voice. This would be on a consulting basis but if Research consults Sales, then Sales should consult Research.

The Research department must be the conscience of the Sales department and nobody gets along too well with his own conscience. Claims made for products should be approved by Research. The concept of positive high pressure salesmanship is passing; the day of implantation with the medical profession of limitations as well as merits is here. Too often selling organizations do not concede the point that reputation and honesty build sales as well as carefully chosen quotes and excerpts from clinical reports. Admitting the defects of a product can win friends for us, the medical profession wants to know and should know the imperfections of new remedies honestly compounded. Some balance is in order. Again, joint consultation would solve the problem.

Sales, on approaching Research with a request for a product, should automatically commit themselves to a gross volume, if only to prove they have studied the market and are familiar with demand. All too often, Sales will state that they would like such and such a product; but they make no commitment on probable success with the item once Research has produced it.

If Sales expects to recommend lines of research development, then Sales should permit Research a voice in determing which products will be promoted and advertised. If Sales expects to criticize taste etc. on a product, then Research should be in a position to criticize the aesthetic taste shown in advertising that product. There have been successful human beings who worked with their conscience and

RESEARCH DIRECTOR
NATIONAL DRUG COMPANY

there are successful sales organizations that work along with Research and are outstandingly successful.

Sales is perfectly willing to charge up to Research a product that barely gets by on Sales; but such credit is hard to get when the product is a success. Sales may indeed make the first sale but we all know darn well that the product makes the second sale and all other sales. No selling organization, no matter how good, can resell an item that doesn't have the stuff. Research conceded the fallacy of the axion about the mouse trap but the old one about a good sales department disposing of horse manure in large quantities is equally fallacious.

Products are the life blood of a drug company; they are the offspring of Research and no full-blooded Research organization likes to see its promising children ignored. A product launched with the customary blotter, index card, and good wishes is a product ill-fed, ill-housed and ill-clothed. No worth-while product deserves such a fate.

Petty criticism and quibbling over product constitutes another of the major offenses committed by Sales against Research. The color is wrong . . . the product should be chartreuse and not a bright green. The content is wrong . . . the product should have six milligrams of thiamine per cc. and not five milligrams. The taste is wrong . . . this time they want a vanilla ice cream soda.

Merit of a product frequently does not cause production to grin and bear relative difficulty of manufacture. An item easy to make is desired. If there are any difficulties to be met, then it is the fault of the research group.

Production does not lean heavily enough on Research at the time of transfer of a product. Production is much too much inclined to grab the ball and run only to stub the toe on the ten yard line; and then scream for proper interference; calling on Research.

Production wants absolute freedom of source for each component of a given formulation. Research cannot permit this. No adequate specifications can be given on some raw materials which are components of tricky preparations. Research cannot state specifications and say go ahead and buy the material anywhere as long as it meets those specifications. Often years of research would be required before it would be possible to set up specifications so rigid as to exclude any possible complications.

Production invariably tends to cut corners on its own. The original method of manufacture and formulation is modified slightly. No modification in formula or method should be adopted without first being okayed by Research.

Production holds the view that Research is the fringe on the top of the buggy. There is generally an element of resentment against Research based on the false notion that Production is more essential to a company than is Research. A fundamental alteration in philosophy, an adjustment in thinking toward the idea that there are three or four legs on a stool instead of one would be indicated. A little mental hygiene directed toward the elimination of the *I AM*, and the introduction of *WE ARE*.

It is generally known that small scale operations bog down when transferred to large scale practice. Production tends to use this fact in its own defense but not with regard to Research. The idea is that Research should be able to formulate

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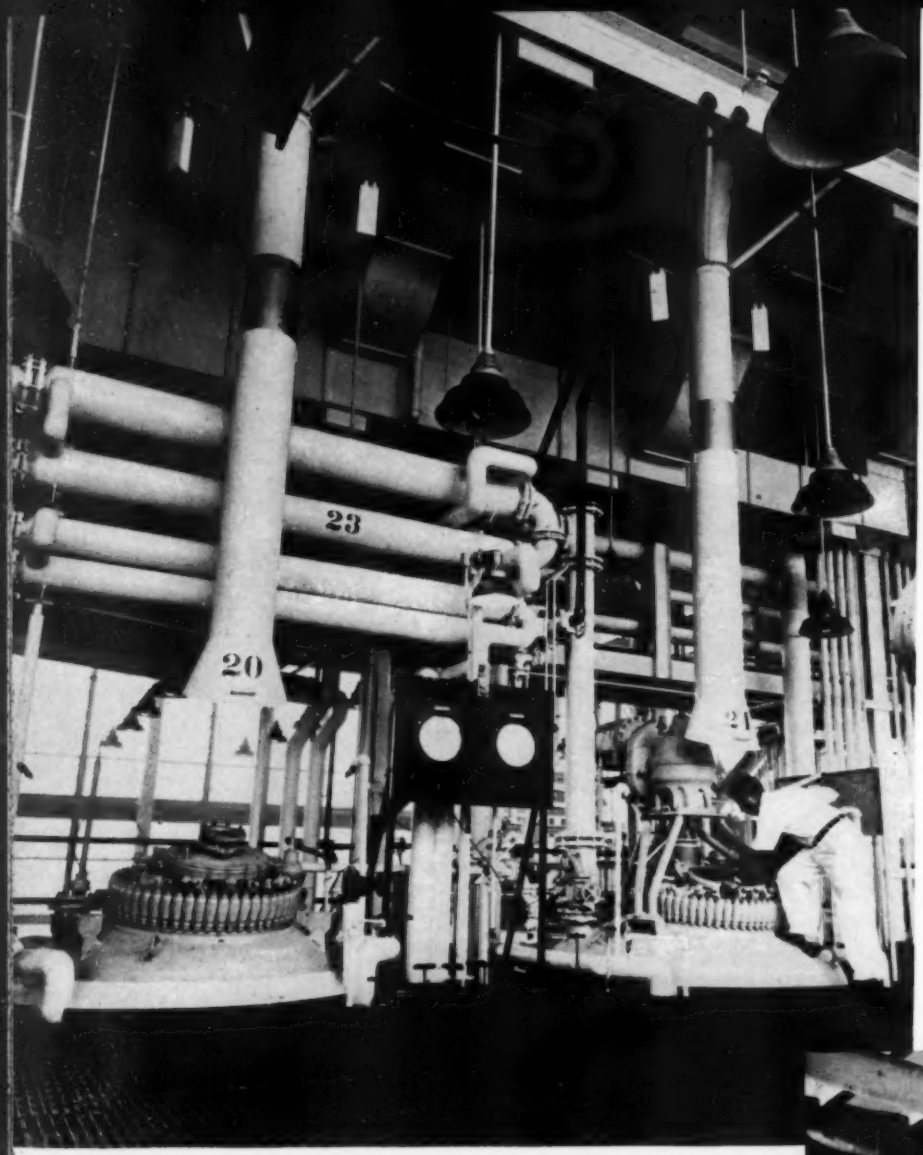
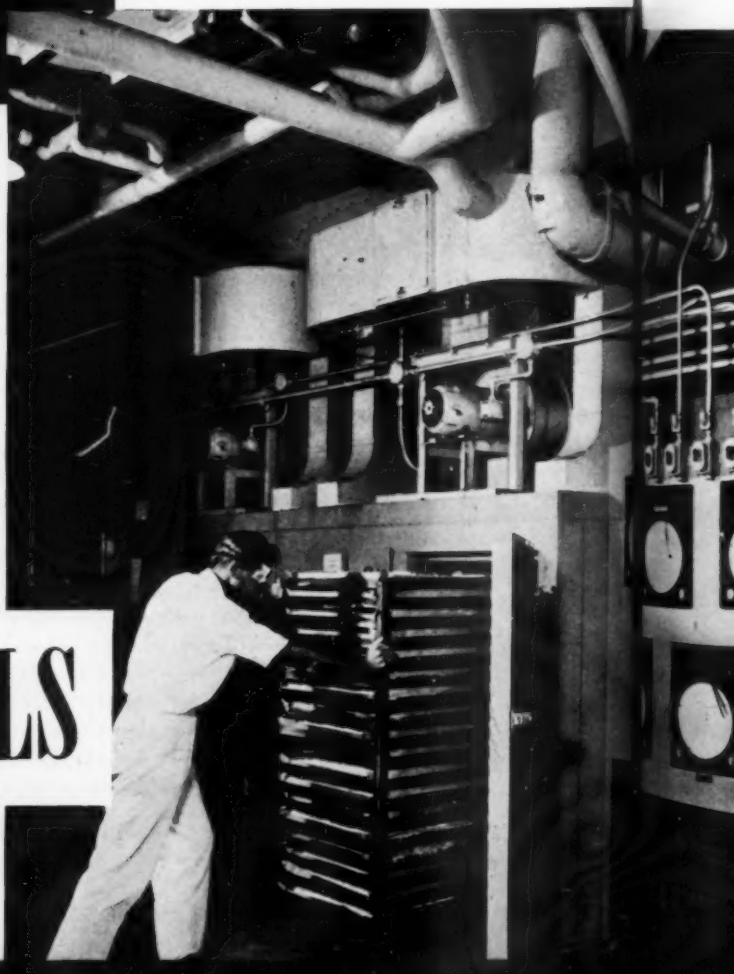


The picture on the left is a view of reactor operating platform. Two panel mounted thermometers record temperatures reactors. Below are shown a panel of Air-o-line wet and dry bulb thermometers which control temperature and humidity of series of cabinet driers. Photos courtesy G. D. Searle & Co.



INSTRUMENTS FOR PRODUCING PHARMACEUTICALS

TECHNIQUES in the manufacture of ethical pharmaceuticals have undergone many changes and improvements since the founding of G. D. Searle & Co. 61 years ago.

Over the years the trend toward utilizing synthetic chemicals as ingredients in pharmaceuticals has increased so that today chemical manufacturing constitutes a very important part of Searle's production. In many cases, ingredients are more economical to synthesize than to refine from natural sources. Furthermore many substances used widely by physicians cannot be found in nature and therefore must be manufactured—Aminophyllin, for example.

Success in obtaining desirable yields of these synthetic materials and in safeguarding their purity is due in part to extensive and modern instrumentation which has been engineered for chemical processing. In this article some of the techniques for instrumenting both large and small batch operations are described.

Many Chemical Reactions Performed

Some of the technical names applied to the chemical operations performed at Searle include: methylation, chlorination, diazotization, ring closing, and Friedel-Krafts reaction. The character of each reaction determines the type and extent of instrumentation required.

It is an established fact in chemical circles that the speed of most chemical reactions approximately doubles for every 10-degree (Centigrade) rise in temperature. Where reactions are carried out in closed vessels, close attention must be paid both to temperature and pressure, not only from the standpoint of safe operation but also as a consideration of product yield and quality.

Organic chemicals, which are the chief concern at Searle, are quite sensitive to temperature, many of them decomposing at fairly low temperatures. A difference of a few degrees in carrying out some of these reactions often has a tremendous effect on the yield of desired material. Should the temperature become too high, undesirable side reactions or decomposition may occur, whereas at temperatures too low, the reaction will not proceed to completion.

Often it is necessary to control the rate of reaction most carefully especially where the reaction becomes self-catalyzing beyond a certain critical temperature. In such cases it is necessary to switch instantly from a supply of steam to a source of cooling water.

Controlling Critical Reactions

Many of the chemical reactions are carried out in glass-enameled, steam-jacketed reactors of the type illustrated. These vessels are equipped with agitators driven by explosion-proof motors. Because of the extensive use of highly volatile and inflammable solvents, explosion-proofing of all equipment is highly important. All instruments used in this area incorporate spring-wound chart drives.

There are about 20 reactors varying from 50 to 2,000-gallon capacity in the chemical department. Each of these reactors is equipped with an indicating-recording thermometer (mercury filled) to constantly guide the operator. The chart records are also useful in our accounting and quality control departments.

To increase response speeds of these systems, the glass-enameled wells, in which the stainless steel thermometer bulbs are inserted, are filled with mercury.

The reactors are heated with 35 psig steam. Some of the vessels are connected to glass-lined condensers and vacuum pumps and frequently are used as stills. Vessels of this type are equipped with Brown recording compound pressure-and-vacuum gauges, as well as with a recording absolute pressure gauge, which plays an important role where operations are carried out at pressures below 100 millimeters of mercury.

When the processes are operated in comparatively low-pressure ranges, the effects of barometric pressure changes are very marked. For example, when operating at a pressure of 50 millimeters of mercury absolute, a change in barometric pressure of 5 millimeters, which is not an unusual change, represents a 10 per cent change of the desired operating pressure. By employing an absolute pressure gauge, which is automatically and continuously compensated for barometric pressure changes, the operator is guided by the exact, absolute pressure in the vessel and not by the difference in the pressure of the vessel and that of the atmosphere.

By equipping one of the reactors with an automatic timer, it is possible to charge the vessel at the close of one working day and have steam admitted automatically to the vessel during the early morning of the

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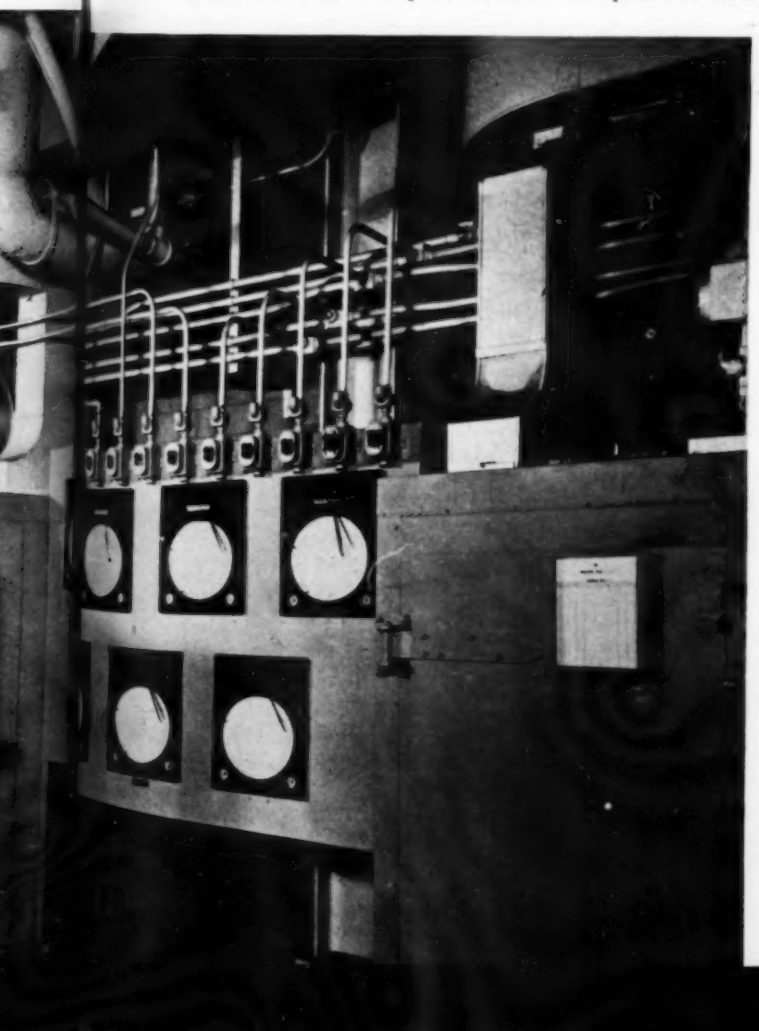


COSMETICS Functions and Formulations

Manicure Preparations Part III

By HARRY HILFER

THE most important manicure preparations have already been covered by the previous papers. It was thought best to include for the sake of a comprehensive survey other preparations many of which have become obsolete and others whose importance has faded because of changing fashion trends.

Nail Whiteners

These preparations' function was to whiten the ends of the finger nails. They were applied by means of an orange stick or a file to the underside of the ends and then rubbed in until a uniform film was applied. They consisted of an ointment base in which was incorporated zinc oxide or titanium dioxide which was the whitening agent. The base consisted of a mixture of petrolatum, mineral oil and usually beeswax into which the whitening agent was ground.

The importance of this preparation has faded because of the modern tendency to apply lacquer to the whole nail surface. This trend has obviated the need of nail whiteners since their function is no longer a necessary one. There is however a small market for this preparation among women who have not succumbed to the modern nail lacquer trend and who therefore desire white tips.

Nail whiteners may be packaged in a small jar or in tubes since they may be used conveniently in either of these forms.

Buffers

Before the advent of lacquers for almost universal use, one of the important preparations in a manicure set was the nail buffer. It was designed to enhance the sheen of the nails and consisted essentially of an abrasive which was mild in its character, usually tin oxide. The powder was used with a soft cloth buffer and did a satisfactory job in this manner.

The buffer's function has been replaced in its entirety by the use of colorless lacquers which are capable of forming a film whose sheen would be much greater than any of the buffers. The colorless lacquers are now being used even for men.

Oil Dryers

There have appeared on the market, but without any too great success, preparations whose functions were to increase the drying rate of lacquer films after application. They consisted of non-volatile oils which acted as solvents for the lacquer volatile components, but without dissolving the nitrocellulose resin and plasticizer base. Most of those examined consisted of mineral oil or mixtures of mineral oil and a fixed oil such as cottonseed or olive oil. The theory behind their formulation sounded good enough, but the variable which was not too well considered was how soon after application the dryer should be applied. The use of the dryer too soon after the lacquer application ruined the character of the film since it was dissolved by the lacquer solvents and therefore interfered with the

proper setting of the nitrocellulose, resin and plasticizer base. Under any circumstances their use had a strong tendency towards removing some or all of the plasticizer, since these substances (notably diethyl phthallate) are easily dissolved by fixed oils. Their use had more disadvantages connected with them than the one advantage of speedier drying.

Aside from these considerations, the drying time of most of the lacquers now sold cannot be considered so great that outside mechanical aids are necessary to overcome any tediousness attached to their use. Actually after a two minute wait the film has dried far enough so that casual abrasion will not hurt it. The argument advanced is that at this stage immersion in water would spoil the film, but it is extremely unlikely that any woman would apply lacquer to her nails immediately before washing dishes.

A field for new manicure preparations would lie perhaps in an entirely different direction, and that is ease of application. Application by means of the present types of applicators is an exacting and tedious chore. It was once suggested to me that if anyone could find a method of formulating a lacquer which would be substantive to the nails without touching the surrounding tissues, it would be a big advance, since application could be accomplished by dipping the fingers into a cup holding the lacquer. The idea has a great deal of merit, but it is rather difficult to visualize how it could be carried through. However extreme it may sound, it is the ultimate in ease of application and any idea which approaches this goal has some merit.

General Comments

Manicure preparations have become an important part of good grooming, and even the older more conservative cosmetic manufacturers have incorporated them into their lines. Their use is not confined to the U. S. A., since large amounts are also consumed all over the world. There have been various criticisms made concerning their use, particlarly the danger to allergic people. Whatever the basis for such criticism may have been, the number of sufferers could not have been great enough to cause them to be unpopular.

There have been cases of allergic dermatitis reported in the medical literature traceable to the use of lacquer and even to one of the components in it. Unfortunately, there are people who could develop allergies to even the most unreactive of materials, a fact which is recognized by all manufacturers. I have seen no statistics which would enable me to point out a greater percentage of trouble due to lacquers than to any other cosmetic item. In their formulation it is well to avoid the use of known allergies, that is substances which show a greater susceptibility for the induction of such trouble than others, but if the formulation contains no toxic agent, it will usually be safe.

At the same time, however, new synthetic chemicals whose properties may suggest their use in lacquers, should be investigated thoroughly from a biological and allergic standpoint. Too often the enthusiasm aroused by physical properties of new substances which would increase the efficiency of the finished cosmetic has caused manufacturers to jump the gun before proper investigation of physiological and histological effects, leading to a series of complications which are not easily overcome. Such an occurrence hurts not only the offending manufacturer but his competitors since in the public mind all of them are associates in the same pool.

Their is nothing healthier, however, than systematic investigation of new materials as they become available. A good middle course in which all factors are checked is usually a safe one. In spite of all precautions some quirk may make itself apparent only after the product has reached the consumer, but leaning backwards by no developments, whatsoever, leads to a stagnation from which a non-recoverable decay inevitably sets in.

There was a great deal of criticism directed against several lacquer distributors because of a bad reaction (physiological) to one of the manicure preparations they placed on the market. Investigation proved that the product was placed through all the necessary medical tests to determine its fitness for use. In spite of these precautions, the regrettable series of events occurred. These manufacturers have my profound sympathy and good wishes. They tried to market what they thought was a better product—acceptable medically. I hope that the suffering they endured as a result of this setback will not keep them from continuing their investigatory research so that they may again place on the market a better product.

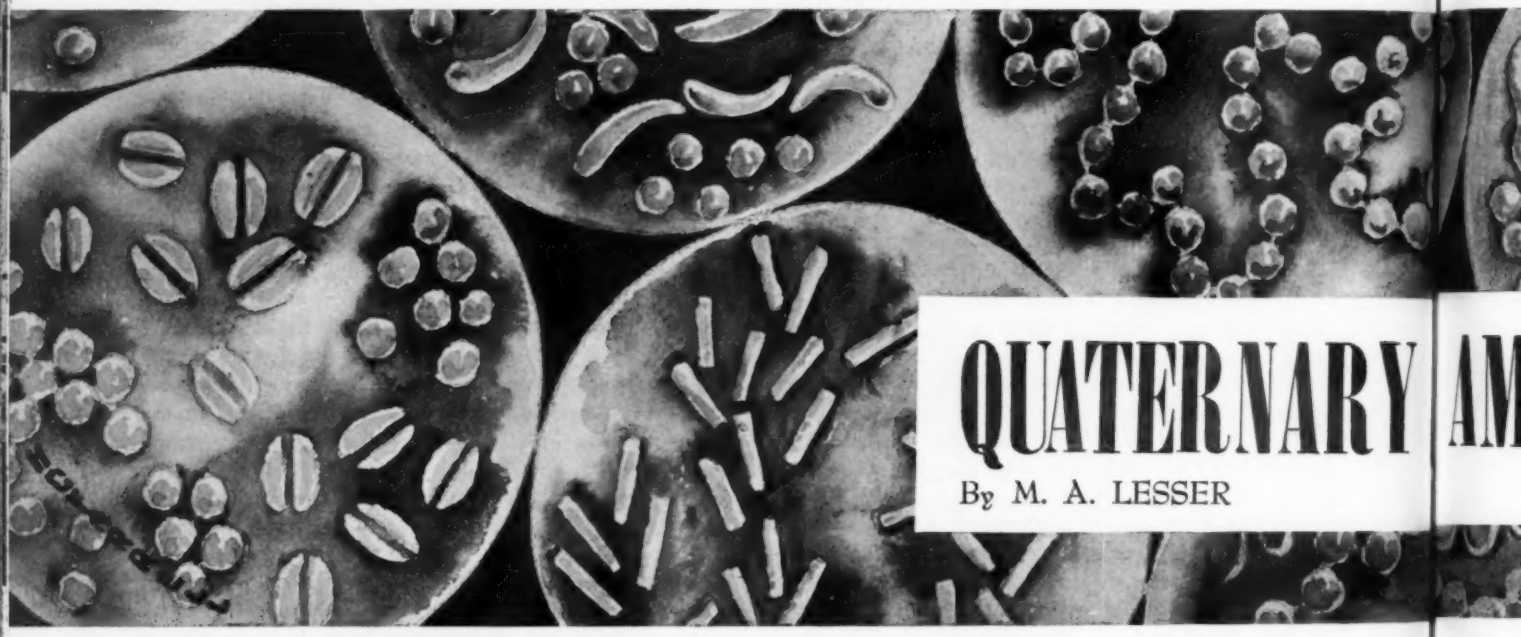
Manicure preparations of all cosmetics are more affected by changes in fashions and by fashion trends. It is therefore a dynamic business since it is so easily catalyzed by external stimuli. Only by being elastic enough in their method of thinking and working could the manufacturers survive. Continuous investigation therefore becomes a necessity as important as their advertising.

DESPITE certain known limitations, the quaternary ammonium germicides have attained a prominent place in the fields of antisepsis and disinfection.[5] In line with this view is the statement by McCulloch and his associates[36] that these compounds are being adopted in practically every field in which germicides are used. They cite the fact that the label under which the U. S. Navy purchased one such product gave directions for general disinfection; ward disinfection; sick room uses; disinfection of surgical instruments, rubber goods, clothing, linens and towels, toilets and urinals, cuspidors, garbage pails, gas masks, drinking glasses, chinaware, kitchen utensils, and also for use as an antifungal agent. In order to be effective, the concentrations must be adjusted to the specific conditions of use.

These experts also point out that the characteristics of the quaternary ammonium compounds are unlike most of the bactericides with which the medical professions are familiar. This is well brought out in the discussion of benzalkonium chloride appearing in the N.N.R.[18] Here it is stated that when employed in solutions of the proper dilution, the official (U.S.P.) quaternary is an effective, non-injurious surface disinfectant which is germicidal for many pathogenic nonsporulating bacteria and fungi after several minutes exposure. Solutions of benzalkonium chloride have low surface tension and possess detergent, keratolytic and emulsifying actions. These properties favor penetration and wetting of tissue surfaces. The solutions are said to be emollient and to be relatively non-irritating in effective concentrations. The compound is suitable for general use in the prophylactic disinfection of the intact skin or mucous membranes and in the treatment of superficial injuries and infected wounds in solutions ranging in concentration from 1:40,000 to 1:1,000. It is also employed for the preservation of sterilized surgical instruments and rubber articles during storage.

Remembering that similar statements could be made with regard to Ceepryn, Phemerol, Hyamine 10-X and probably other high grade quaternary ammonium compounds, it is possible to consider the specific indications for these agents. Data of this sort with respect to benzalkonium chloride U.S.P. is given in the N.N.R.[18] as follows: For the preoperative disinfection of the unbroken skin or the treatment of superficial injuries and fungous infections benzalkonium chloride tincture (tinted or stainless) is recommended. Benzalkonium chloride solution is employed in concentrations of from 1:10,000 to 1:2,000 for the preoperative disinfection of mucous membranes and denuded skin, from 1:5,000 to 1:2,000 for intillation and irrigation of the eye or vagina, and from 1:10,000 to 1:5,000 for widely denuded surfaces. For urinary bladder and urethial irrigation a concentration of not more than 1:20,000 of the aqueous solution is recommended; for retention lavage of the bladder, a concentration not exceeding 1:40,000 should be used. For the therapeutic disinfection of deep lacerations the 1:1,000 aqueous solution may be employed, but for the irrigation of deep wounds, the concentration should not exceed 1:3,000. For the treatment of infected, widely denuded areas with wet dressings, the aqueous solution should be used in concentrations of 1:5,000 or less.

It is obvious that the quaternary ammonium germicides are quite versatile. This will be further evident in a more detailed discussion of the individual indications for these compounds. In surgery, aqueous solutions or tinctures of quaternary ammonium compounds, like Zephiran, Phemerol, Ceepryn and, more recently, Urolocide (benzyl dodecylcarbamylomethyl) d-methyl



QUATERNARY AM

By M. A. LESSER

ammonium chloride),[36] have been found to be effective sterilizing agents in preparing an operative site for surgery. They are also used for the preoperative preparation of the operators' hands and areas. The tinctures are generally prepared in vehicles consisting of 50 per cent ethyl alcohol and 10 per cent acetone by volume. These may be stainless or tinted with a certified dye to help designate the sterilized area.

The employment of quaternary ammonium compounds does not obviate the need for the preoperative scrub-up. Rather, they should be considered as valuable adjuncts to this procedure. After the routine scrubbing with soap and thorough rinsing with water, the cleaned skin is then rinsed with 70 per cent alcohol and then with the quaternary solution—a tincture is usually employed. It is said[18] that the alcohol rinse serves to prevent the inactivation of the disinfectant by the soap.

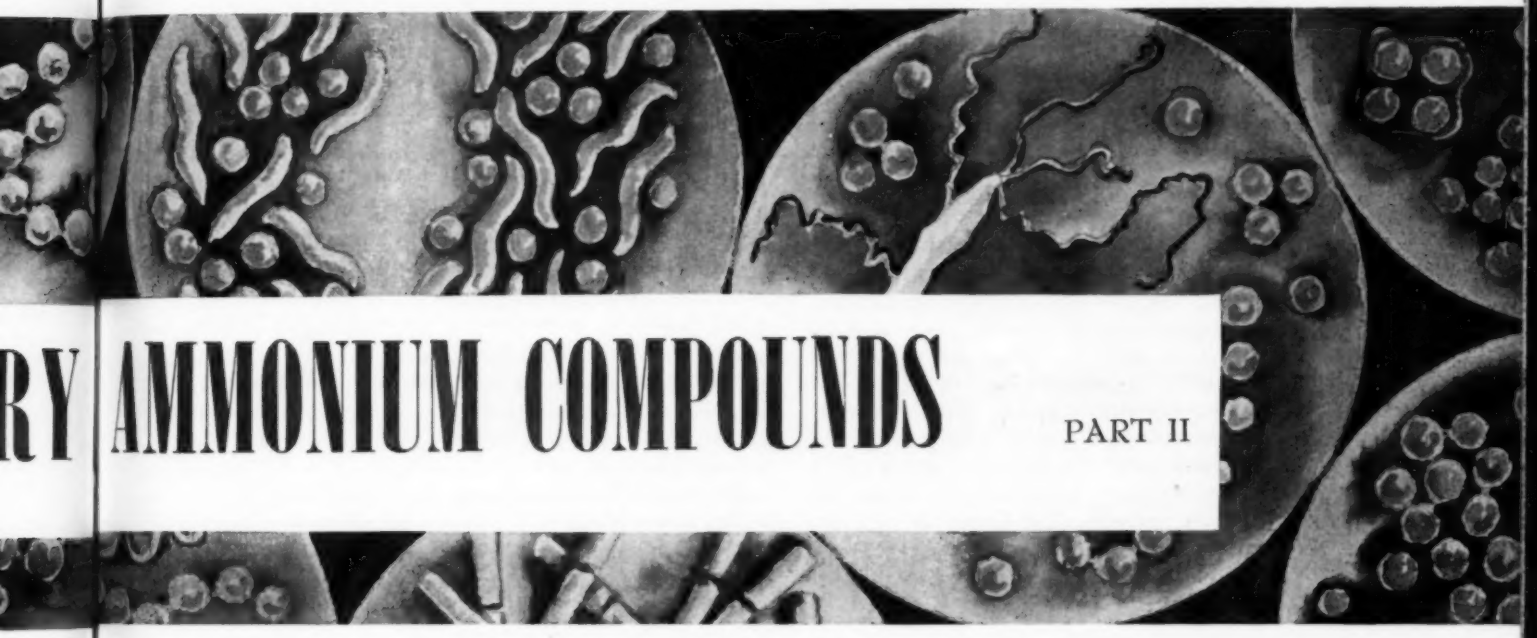
In 1943 Miller and his associates[27] observed that quaternary ammonium compounds form a film on the skin. Such a film, it was found, is quite effective in preventing penetration by living bacteria, but it does not kill the bacteria beneath it. Such films resist considerable mechanical abuse, although they are instantly dispersed by contact with soap or other anionic detergents. McCulloch, Hauge and Migaki[26] feel that full advantage should be taken of these bacteria resistant films. Thus, wetting the hands in a solution of one of these compounds just before putting on rubber gloves provides safe lubrication, keeps the skin pliable and affords considerable protection should the glove be torn or pricked.

Of interest in this connection is the suggestion[22] that a solution of a quaternary ammonium compound be used for washing and sanitizing the hands of operators in the pharmaceutical processing fields. The solution can be used conveniently by placing it in a suitable dispenser at each wash basin. A dependable technical product could be used rather than the more expensive pharmaceutical grades.

As already indicated, the quaternaries are also employed in the disinfection of wounds, deep lacerations, in irrigations and in wet dressings. Illustrative is the report of Kramer and Sedwitz[23] on the use of Ceepryn in a 1:1,000 aqueous solution for all surgical procedures in which a germicidal solution, irrigant or wet dressing was indicated. When employed as a wet dressing the cetyl pyridinium chloride solution not only gave good results in all cases, but also caused no maceration or wrinkling of tissues. The solution was found very useful in contused wounds requiring debridement. It proved to be particularly valuable in the treatment of extensive abrasions or brush burns in which small particles of foreign material were embedded in the superficial skin layers. It was also noted in many cases that wounds which contained a great deal of detritus were readily cleaned of all tenacious material by irrigation with the quaternary solution.

Dermatologists also have found these compounds to be useful aids. Already cited is their value in the treatment of fungous infections; this property being frequently recommended for the prevention and treatment of "athlete's foot." Certain bacterial infections of the skin may likewise respond to treatment with quaternary solutions of suitable concentration. In general, these compounds are useful in the treatment of pyodermia, irritating eczema, folliculetis, trichophyton infections, impetigo contagiosa, furunculosis and other conditions.[39]

Another interesting use for one of these materials—and one for which mothers and infants are grateful—is



RY AMMONIUM COMPOUNDS

PART II

in the prevention of diaper rash. As reported by Benson and his associates,[40] diaper rash, the result of ammonia released by urea-splitting bacteria, may be prevented by impregnating diapers with a solution of a quaternary ammonium compound. In their investigations, these workers used only treated diapers for 50 babies with moderate to severe dermatitis. Within a week, all but one case was completely cured. The preparation is now supplied for home use in the form of a tablet containing a mixture of the quaternary ammonium compound (Hyamine 10-X) and sodium bicarbonate.

As might be expected, quaternary ammonium compounds have been incorporated into ointment basis for the local treatment of dermatologic and other conditions. Several reports have appeared on studies to determine the most suitable bases. Hart and Huyck,[41] for example, found that best results were obtained with a modified hydrophylic petrolatum base. Such an ointment is made as follows:

Quaternary ammonium compound (Hyamine 10-X)	**2 per cent**
Stearyl alcohol	**3 " "**
White wax	**8 " "**
Wool fat	**16 " "**
White petrolatum	**71 " "**

Using cetyl trimethyl ammonium bromide as the representative quaternary, Prusak and Mattocks[42] found that pectin paste N.F. and a Carbowax ointment readily release the germicide in active form. This demonstrated that these form suitable bases for quaternary ammonium salts. The Carbowax ointment was prepared by mixing Carbowax 1500 (Carbide and Carbon Chemicals Corp., New York City) with 10 per cent of water.

In his very indicative patent, Shelton[43] suggested the following as a formula for an antiseptic medicated skin cream:

Germicide (cetyl trimethyl ammonium salt)	**0.1 per cent**
Glyceryl monostearate	**10.0 " "**
Glycerine	**15.0 " "**
Water, to make	**100.0 " "**

Because suitably diluted solutions are non-irritating to the conjunctiva, the quaternaries find employment in the treatment of eye conditions. For example, the ophthalmic solution of Phemerol Chloride is applicable as an antiseptic and soothing agent in such conditions as ophthalmic accidents, operative procedures, styes, chalazion, trichiasis, ectropion, conjunctivitis and ulcerations of the cornea.[44] The compounds may be included in other types of preparations for the eye. An ophthalmic ointment, containing benzalkonium chloride in a proportion of 1:2,000 is available.[17]

The usefulness of the quaternaries in liquid preparations for the eye has been greatly extended by the work of Skolaut.[45] Citing work which showed that ophthalmic solutions can be maintained in a sterile condition by the addition of benzalkonium chloride, he pointed out that such solutions, by virtue of there low surface tension, increase the permeability of the cornial membrane and promote a more rapid onset of action by the other drugs present in the solutions. Skolaut's studies showed that benzalkonium chloride in a concentration of 1:5,000 maintains sterility in ophthalmic solutions for at least two weeks. Such solutions need not be antoclaved, thereby preventing destruction of heat-sensitive compounds. With the 1:5,000 solution as the vehicle, he has prepared practically the entire range of ophthalmic solutions. Illustrative is the following frequently used 0.25 per cent zinc sulfate solution:

Zinc sulfate	**2.5 Gm.**
Boric acid	**15.6 Gm.**
Benzalkonium chloride solution 1:5,000 to make	**1,000.0 cc.**

The field of otology also finds occasional employment for quaternaries. For example, benzalkonium chloride solutions may be used as irrigations in cases of otitis media. Ear drops containing a quaternary ammonium compound (Hyamine 10-X), benzocaine, and benzyl alcohol in a glycerine base has recently been placed on the market, under the name, Omaderm (Colin Pharmacal Co., Brooklyn, N. Y.).

Quaternary ammonium compounds in suitable dilution find use as nasal irrigations. Nasal drops and sprays may also benefit from the inclusion of such a material. Indicative is a product called Narakon (Baybank Pharmaceuticals, Inc., New York, N. Y.). This is described as a solution for intranasal application containing benzalkonium chloride (1:3,500) and allantoin in an aromatized, isotonic aqueous solution, buffered to a suitable pH. It is available with or without desoxyephedrine as a vasoconstrictor. According to the manufacturer's literature Narakon is useful for affording symptomatic relief in head colds and simple nasal irritations, for some of the manifestations of rhinitis, sinusitis, nasopharyngitis, and for congestion of nasal origin.

Of related interest is Shelton's[43] formula for nose drops, as follows:

Germicide (cetyl trimethyl ammonium salt)	**0.04-0.02 per cent**
Ephedrine sulfate	**1.00 " "**
Dextrose	**1.00 " "**
Water, to make	**100.00 " "**

In passing, it may be noted that a quaternary ammonium compound has proved to be a useful adjunct in the aerosol therapy of respiratory infections. In work done by Bryson and Grace,[46] benzalkonium chloride in a 1:1,000 aqueous solution has been used as a solvent for penicillin, to be given as an aerosol. Not only did this vehicle produce a stable mist, but it is felt that it also contributed to the excellent results obtained in some cases.

(Continued on page 631)

THE MARCH OF THERAPEUTICS

Two committee reports from the recent meeting of the American Drug Manufacturers Association give, in very concise but indicative form, the latest developments in therapeutics and the status of these developments.

COMMITTEE ON BIOCHEMISTRY

BIOCHEMICAL research in connection with Vitamin B_{12} received much attention during 1948 and in August the Merck research group announced that it had been found to be a Cobalt Complex Compound. As one of the new highly active biochemical substances it is outstanding and microgram quantities have been successfully applied in the therapeutics of pernicious anemia and the cord degeneration associated therewith.

Folic Acid has been implicated in the accentuation of the neurological symptoms of pernicious anemia and reports have appeared indicating an overlap between Vitamin B_{12} and Folic Acid in human megaloblastic anemias. Cases have been described which failed to respond to Vitamin B_{12} and subsequently responded to Folic Acid. The interrelationships between Folic Acid, Vitamin B_{12} and the Animal Protein Factor are not yet clear.

Synthetic Vitamin A and its potentialities as a replacement for the natural vitamin was a subject of importance during the year. This interest grew out of the reports of Van Dorp and Arens on the synthesis of Vitamin A Aldehyde and also of Vitamin A. Isler and his group have also described a synthetic method for Vitamin A. There seems little question but that 1949 will see the marketing of Synthetic Vitamin A in ample quantities.

In the hormone field, Dehydrodoisynolic Acid loomed large as the probable future estrogenic hormone. Segaloff reported results indicating that the liver while inactivating Alpha Estradiol and similar compounds actually enhances the estrogenic potency of the 3-Methyl Ether of Bis-Dehydro-Doisynolic Acid and Sodium Bis-Dehydro-Doisynolate.

Hyaluronidase which is associated with the spreading factor controls the polymerization of Hyaluronic Acid, a mucopolysaccharide which occurs in the mesenchyme. The possible involvement of this enzyme in the spreading of infectious agents, in controlling virulence of microorganisms, in rheumatic and arthritic diseases has been discussed. The enzyme has found possible application in spreading the action of local anesthetics,

(Continued on page 639)

COMMITTEE ON ORGANIC CHEMISTRY

ONE of the most active programs of organic chemistry in the drug field continues to be in the essential metabolite-antagonist group. Besides the study of competition between p-Aminobenzoic Acid and Sulfanilamide derivatives, investigations of interactions of several vitamins, amino acids, hormones, purines, and pyrimidines with antagonists continues.

The interrelationships of Folic Acid, purines, pyrimidines, and Vitamin B_{12} inbacterial as well as human nutrition has provoked much synthetic work in an attempt to prepare compounds having either growth-stimulating or growth-inhibiting properties related to these derivatives. The Folic Acid antagonists such as 4-Amino derivatives, and 2, 6-Diaminopurine have shown inhibitory effects on experimental tumors; and the former types are undergoing extensive clinical trial against leukemia.

Antagonists of amino acids, also, are prepared by some of the processes of modification used in vitamin antagonists, such as substitution of Vinylene, and change of Carboxylic Acid to Phenyl or Methyl Ketone. These antagonists may provide some help in understanding natural processes, and perhaps lead to preparation of chemotherapeutic substances.

In the veterinary field, the routine prophylactic use of Sulfaquinoxaline is undergoing trial against coccidiosis, a poultry disease. A new type of compound, Bis (m-Nitrophenyl) Disulfide, useful against the same disease, has been recently announced.

In a relatively short time, the field of anti-histamine products has been investigated and found to yield many compounds of two main chemical types, N-heterocyclic-N′, N′dialkylethylenediamines and dialkylaminoalkyl ethers of various aromatics. Most comparative clinical trials do not indicate great differences in effectiveness; but the variable responses or side effects from patient to patient makes desirable the availability of a considerable number of anti-histamine agents. Understandably, the many compounds make the problem of the prescribing physician more difficult.

Two compounds showing activity against certain trypanosomes, 4-amino-6-(2′-amino-6-methylpyrimidyl-

(Continued on page 639)

THE Monterey LINE

UNUSUALLY COMPLETE UNUSUALLY ATTRACTIVE

Package your entire line quickly and economically with this comprehensive range of sizes from 1 dram to 8 ounces with the addition of a bath salt bottle.

Immediate shipment of any quantity. Write for specifications.

Wheaton GLASS COMPANY, Millville, N. J.

New York Office 165 Broadway Chicago Office 221 North La Salle Street

PACKAGING and SELLING

COTY'S PLAN

Mr. Philip Cortney, president of Coty, in a talk at the Trade Practice Conference held before the Federal Trade Commission on March 24 made some convincing statements supporting the trade practices used by Coty and, in addition, gave some very revealing information regarding Coty's plan of distribution.

In 1948 drug stores sold 60 per cent of Coty's goods. Of the amount purchased and sold by drug stores, 17 per cent was accounted for by drug chains. According to Mr. Cortney, it costs Coty more money to do business with the small store than with the big one.

While Coty has a large demonstration system, nearly all employed in department stores, this company has also a detailed, well-thought out plan of promotions which they operate through their system of wholesalers, and which involves a great deal of expensive printed matter, including store displays of various kinds.

According to Mr. Cortney, the Coty sales plan is completely in line with the Robinson-Patman Act, and in making this statement he formally invited the Federal Trade Commission to designate an individual who would come to Coty for one year at their expense to study their way of doing business.

This is the way the Coty plan works. Where a store presents the possibility of the use of a demonstrator because of services and facilities which they possess and which may make a demonstrator feasible, the store provides:

1. The customer carries at least one piece of our preparations, shades and odors.
2. The customer furnishes adequate counter and selling space in the toilet goods department.
3. The customer furnishes constant counter and show-case displays.
4. The customer furnishes a certain number of window displays per year.

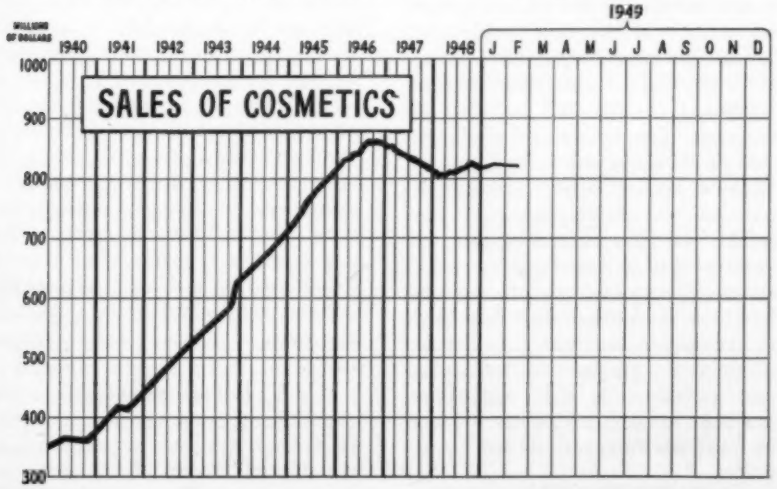
"To those of our customers whose volume of business does not justify the employment of one or more fully paid demonstrators in accordance with present or prospective sales volume, we pay $5.00, $10.00 or $12.50, etc. per week toward the salary of a demonstrator, providing the store, and no other manufacturer, pays the balance of the salary of such demonstrator."

"To those of our customers who cannot, because of their location and size, physically avail themselves of the employment of a demonstrator, we offer sales aides and merchandise helps which are suited to their needs." "These sales aides may in many instances be more costly to Coty than relative costs of demonstrators, but they are made to suit the needs of the retailer."

According to Mr. Cortney, "The overwhelming majority of owners of independent, retail drug stores who are conversant with what goes on in the toilet goods business are making no objection to demonstrators in department stores, because they realize that the brands of perfumes, toiletries ad cosmetics most often called for and requested by their customers carry the same trade names of the manufacturers who are most ably represented by specialized persons in toilet goods sections of the department s'ores and fine specialty shops of this country."

In proportionately equalizing services to various customers, Mr. Cortney makes an interesting distinction between the live demonstrator, that is the individual girl furnished or paid for by the manufacturer in a retail store, and the "silent" demonstrator, that is furnished sales aids of various kinds. In commenting on this he states that the Robinson-Patman Act does not say anything about substitute services. "It is our opinion that we cannot substitute a flesh and blood demonstrator with a mere discount. Discounts do not educate a consumer and do not sell merchandise. Discounts only increase the cost of distribution and make the larger dealer more desirable in the manufacturer's eyes than the smaller dealer and, therefore, tend to eliminate the smaller dealer from the manufacturer's picture. The sales trend and knowledge of flesh and blood demonstrators create and develop sales to the consumer and benefit the entire trading area."

Retail sales of cosmetics for the twelve months ended with February 1949 amounted to $821,480,000. This compares with $822,133,000 for the twelve months ended with January 1949 and with $811,049,000 for the twelve months ended with February 1948



Price

We have just about finished with the period where price has largely been determined by the cost of production and the limits which a producer felt that he could place upon his profit margin.

The evidence that we are returning to a period of many psychological factors

that must also enter into the price, is evident in the advertising in every newspaper. One of the factors which will influence pricing in the future is the census figures now being released, which show vast changes in the number of people in different income ranges. The very large growth in the number of people in middle class income ranges is very significant.

Many retailers believe the customer still likes to have at least three price ranges in a given type product so that a comparison of values can be made, and so that their department may be balanced for a broad price appeal. This has been evidenced in the department store attitude to many classes of cosmetics, and to take just one instance, it has been an open policy of many department stores to select two or three men's toiletries in each specific price range. At the same time, one of the real troubles in retailing, which could grow more intense during this period, is that too large a range in diversity of price confuses the buyer and makes selling more difficult.

Price will always be a very potent psychological factor in establishing quality, and there are many intangible factors which must be considered in setting the price for a product in relation to similar competing brands on the market. For many types of products, pricing too low in comparison with other products could be disastrous, irrespective of the value of the product. On the other hand, a price too high may well limit sales and impede the rapid development the product needs.

The Charles W. Hoyt Company has recently completed a study on psychological pricing. This study was based on an analysis of more than 2,000 newspaper advertisements run by retail stores. Prices ending in one, two, four and six appear to rank low in popular appeal. Above 90 cents or $1.00, the next higher good psychological price is $1.19. Above $7.50, the next most extensively featured price is $7.95. It is probable that psychological price appeals will vary for a product and particularly for an industry.

In the cosmetic business, for instance, $1.00 seems to be the basic magic price for department stores. Below this for certain types of products, 60 cents seems to be the broad jump in popular favor for certain products; and just below 50 cents, the very broad mass appeal.

The truth seems to be that any producer today seeking all of the advantages of psychological price appeal must, after counting the immutable factors of basic cost, study the price ranges for his particular product in the particular type of store which he decides to sell, that is the department store, chain store, mass drug store field, with the wholesaler, or the variety store. After that he must discover the basic price which has positive psychological attraction both for the retailer and for the consumer in the particular market he is seeking, that is the class or prestige market, the middle class market or the mass. After he has completed all of these studies, he must then check the price of competitive products to make sure that his price is not suggesting either a lower degree of quality or a higher price than that particular market has indicated it is willing to pay.

POP and PoP A I

There is one broad field of advertising which seems to be growing in a dynamic way. This is point-of-purchase advertising.

Reports from various sources seem to indicate that a larger percentage of the advertising budgets for this year will go into point-of-purchase than for any previous year. Another very significant sign of the growing concern among sellers over their relative competitive position on the retail counter and in the retail store is that PoP A I, The Point-of-Purchase Advertising Institute, has doubled its membership within the last two years.

There is no normal ratio of percentage for point-of-purchase advertising in the advertising budget. Too many individual problems of product, market and distribution methods affect any one company.

Advertising Age reports that in a recent survey among 54 advertisers, 18 said it was less than 10 per cent, 24 said between 10 per cent and 25 per cent, and 12 said that their expenditures in this field exceeded 25 per cent. The 10 per cent to 15 per cent figure seems to be about average. There seems to be little tendency to question the dominating part that point-of-purchase advertising can play in the sale of packaged goods in retail stores. The real complaint, and that has been the serious stumbling block in our opinion to a vastly greater use of point-of-purchase material and a more serious study of its application, has been the freightful waste involved in its distribution and its use by retailers.

There are many problems here that are individual to certain ways of doing business. Certainly the wholesaler, despite the best intentions in the world, must often act as a serious road-block in distributing this material. Manufacturers who have their own direct contact with retailers may often find a more efficient way of using this material. But even here, the infrequency with which a salesman may call, the changing store problems of a retailer in his own store, the pressure of competition, and many other factors have discouraged a substantial number of manufacturers from an expanding use of store display material.

The department store has never been receptive to many forms of store display material and particularly to the forms which appeal to the smaller independent dealer. Very largely display material for the department store has had to be conceived with the problems and the wishes of this one type of retailer in mind. Now the great growth of the super-market in the food and drug field is bringing new serious problems of specialized design for this one type of store.

Another weakness of point-of-purchase advertising and material has been a too intense concentration on the materials and the mechanics of distributing this type of advertising. It is apparent that the whole effect and efficiency of point-of-purchase advertising must largely rest on a basis of favorable and excellent retail relations. And this is a distinctly separate problem which has not been considered to a sufficient degree either by PoP A I or the advertising manufacturer.

Another factor which point-of-purchase enthusiasts tend to ignore or forget is the substantial influence in selling on the part of the retail sales clerk and the dominant factor in selling which better retail selling education can produce. This factor of retail selling may be insignificant in the super-market as compared to point-of-purchase display. But at the other end of the retail scale, that is in the department store, the fantastic insistence of many kinds of manufacturers on the demonstration system is sufficient proof to indicate that in this type of store the influence of retail selling far outweighs the value of point-of-purchase advertising.

PoP A I makes a claim to the largest circulation for point-of-purchase than all the newspapers and magazines in the United States. In addition to

100 per cent coverage of the population, the Institute stresses 100 per cent selectivity. Also, the Institute stresses low cost. In cities of 250,000 and more population, the window display cost per thousand is estimated at 50 cents; in cities of 100,000 and 250,000, 60 cents; and on up to a peak of $1.00 for a thousand in cities of less than 25,000 population. These figures are, of course, a theoretical ideal, but they unquestionably do make a point.

The growth of point-of-purchase advertising and a large study of the factors entering into it are, undoubtedly, a distinct trend of the times.

Up-to-date the principal point-of-purchase material has covered a wide range and includes neon signs, various forms of lithography in window and counter displays, blow-ups and reprints of national advertisements and a wide variety of counter display stands and cases.

A recent very significant advance in this field is in the research that has been conducted by the larger manufacturers of paperboard in counter and floor displays, such as Hinde & Dauch Paper Company and the Robert Gair Co. An enormous market for counter display material lies some day in the future for plastics.

Recent advice as to how to increase the use of display material includes:

1. Closer supervision of those who install them.
2. Wider use of installation companies.
3. Education of salesmen and dealers to the value of displays.
4. Elimination of mass mailings.
5. Pretesting to determine salesman and dealer acceptance.

Chemical's Plus

No one could possibly have a greater admiration for the vigor, alertness and inventiveness of the chemical industry than we do. Nearly all of our commercial life has been spent in intimate contact with this industry and we would readily admit that our income for the last 25 years has been very largely derived indirectly, but nevertheless in fact, from the chemical industry. During this quarter century we have never lost our original youthful thrill at the fertility of this industry to produce new products, new uses and to contribute to the expansion of our industrial life in a way that we are convinced exceeds any other of the sciences, such as any branch of mechanics or physics.

In spite of this unquenchable enthusiasm, it is very difficult to support with assurance some of the developments of the chemical industry in cooperation with food processing.

The chemistry of food and the science of nutrition have added a great deal to our absolute knowledge of the nutritional requirements of human beings, particularly during this quarter century expansion. Nevertheless, there is very little reason to assume that this knowledge of today is not part of the transition period in nutrition experience and even that it may not be very far beyond the fringe of elementary knowledge.

We recall an article published a few years ago discussing a perfect nutritional program announced about 70 years ago in France by the recognized leader of the world at that time in human nutrition. Some curious investigator unearthed a menu of one of the well-known Parisian restaurants at that time and compared the table d'hote dinner of this restaurant and the perfect health diet of the great nutritionist for food value in the light of current knowledge of foods. It was found that the normal meal at this restaurant was a perfectly balanced diet from the viewpoint of today's knowledge of food and that the planned diet of this great dietician was so seriously lacking in certain nutrient values that it would quickly lead to a serious diet deficiency.

Our commercial packaging of food has many social advantages in universal distribution in this country of all sorts of food products, quality and cleanliness control, identification of this quality through the brand name and to some degree a reduction in price. Nevertheless, in this producing of food and in an effort to reduce price or to increase quality in such things as eye appeal, food processing has turned more and more to the chemical industry for help. That this could lead to unpleasant experiences in which we admit there is no proof, we have only to think of the unpleasant suggestion involved in recent English experiences in the bleaching of white flour.

There seems to be two basic trends in food processing that might not receive too much enthusiasm from consumers if they ever became specifically aware of them. One is that when the soil in certain sections of the country becomes depleted in certain minerals and certain chemicals, there is a tendency to artificially fortify the foods prepared from these areas, rather than to study ways of supplementing the soil with the proper minerals, bacteria and organic matter that would permit the plant to store up a full volume of all nutritional elements.

The other tendency is to use the chemical industry to increase the appeal of the senses, that is eye appeal and taste appeal, through the use of supplementary added substances, so that the senses are deluded into accepting products that may not have the basic nutritional value that the guardians of our diet, that is the senses, were supposed to protect.

It is true that the chemicalization of processed food has proceeded far beyond anything that the normal housewife suspects. We wonder whether this fortifying process is as healthy, either for food manufacturers or the chemical industry, as it seems and whether from a pure social viewpoint the development of nutritional and taste values in food is moving in the most healthy direction.

Group Incomes

Less than 30 per cent of the families and individuals whose incomes are primarily derived from wages and salaries made less than $2,000 a year in 1947. This compares with 75 per cent whose income fell below that figure in 1939.

In 1947 nearly half of the households were in the $3,000 and over bracket, whereas before the war only 10 per cent were in this class.

Another interesting comparison is that about 4,750,000 households had an income of $5,000 and over in 1947 compared with 6,000 households in 1939.

These figures are based upon an analysis of the Bureau of Census of the Institute of Life Insurance.

Color Identification

The Radio Corporation of America has introduced their new 45, R.P.M., vinyl, plastic records with a new plan for identification which will certainly make a great appeal to record owners.

In the future these records will use color identification for easy filing and selection. The selection of characteristic colors to identify the music resulted from a study by a Board of Directors, consisting of color experts and designers, headed by John Vassos, nationally known industrial designer.

This resulted in seven classifications of recorded music, with a color identification according to the psychological and aesthetic color coordination of the type of music represented—ruby red for classical music; midnight blue for semi-classical; jet black for popular; lemon drop yellow for children's; grass

Outstanding Packaging

*Sanitape-Sealtite

BUT WHAT ABOUT THE COST . . .

In a majority of cases Sanitape-Sealtite costs less — a moment's consideration will tell you why.

PACKAGING MATERIALS used are not expensive.

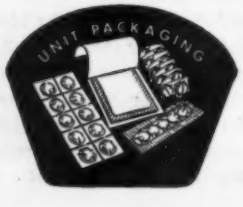
ELIMINATION of numerous protective containers is possible, because Sanitape-Sealtite packaging seals each unit in its own air-tight compartment — protected from dirt, moisture, breakage or handling.

REDUCED shipping and handling charges are effected through the elimination of heavy-weight protective containers.

EFFICIENT, VOLUME PRODUCTION of our contract packaging division attains an unusually low unit cost, reduces your operational overhead, and assumes complete responsibility for every packaging detail.

We shall be glad to discuss this important matter with you, for in the final analysis it spells out *superior packaging* at *less cost.*

IVERS-LEE COMPANY · 215 CENTRAL AVE., NEWARK, N. J.



* Sanitape-Sealtite is a unique method for packaging pills, tablets, capsules, creams and powders, by which each unit or unit-dose is sealed in its own air-tight compartment—assuring complete protection and maintained efficacy. Packages, machines and methods fully covered by U. S. and Foreign Patents and Patents Pending.

green for western; sky blue for international and cerise for folk music.

This industry has made very little use of color identification, perhaps because the opportunities are limited. We have, of course, the historic use of color to identify poison, and there seems to be a growing feeling of the value to use color in the factory for identification of certain machines or machine parts. It is true that both in domestic business and even more so in international business that color, both psychologically and for identification, is the most elementary way of distinguishing and identifying.

It may be that the Radio Corporation has given great impetus to a broader use of a basic instrument for selling, customer convenience, for warning or for any one of many other basic, useful purposes by using color to interpret and identify.

Some Cosmetic People Feel This Way, Too

The state of Florida has been a leading producer of corn, but there are signs that prominent citizens are becoming thoroughly fed up with a product which has flourished so lavishly in the fertile atmosphere of this state.

Quite a number of prominent visitors and citizens have advised the state's advertising commission to begin toning down on bathing beauty publicity and instead to sell Florida in a serious way for the benefits which it can give a visitor.

Clean Air Can Be Advertised

Clean air has not very often commanded a premium either in retail stores or in many types of manufacturing where it could be made into a very real asset either through product and package control or in the broader aspect of advertising.

Today it is so relatively easy and inexpensive to filter air that there is little doubt that many problems which have been caused by various types of dusts will be eliminated in public places such as retail stores and in many factories where impurities cause packaging or production problems.

The new system of air cleaning operates very much in the way a magnet picks up iron filings. Dust laden air is passed through an electro static field where the dust particles are given an electrical charge. These charged particles are then attracted to electrically-charged plates of the opposite pole. At intervals the accumulated dust is removed from the plates.

Department of Commerce Monthly Retail Trade Report

Retail sales of all kinds in drug and department stores showing sales for the month of February 1949 as compared with the same period in 1948.

	Department Stores	*Drug Stores*		*Department Stores*	*Drug Stores*
Atlanta	–4	+4	Minneapolis	–1	–5
Baltimore	–5	–3	Milwaukee	–5	+6
Birmingham	–2	–1	Newark	–7	–16
Boston	+2	+1	New York	–6	–2
Chicago	–5	+4	Philadelphia	–10	–4
Cincinnati	X	+4	Pittsburgh	+2	–3
Cleveland	–2	–4	Providence	–6	–3
Dallas	X	+2	St. Louis	–1	+4
Detroit	+1	+10	San Francisco	–3	–6
Los Angeles	–9	–7	Seattle	–6	–4

The United States Bureau of Standards advises that the electronic cleaner can remove 85 per cent to 90 per cent of dust from the air. This cleaner can also sift out such things as soot, bacteria, pollen, mold spores and the invisible particles of tobacco smoke. Many department stores, including Macy, Wanamaker in Philadelphia, Foley Bros., Houston, and May's in Cleveland, are using this system.

The chief engineer of Tiffany's states that this system removes the air sulphur particles that contribute to tarnishing. The Aluminum Co. uses this system to prevent contamination from minute flaws in aluminum foil. A brewery uses it to keep air-born bacteria and fungus from entering the fermentation vat.

Packaging Book

A beautifully printed and profusely illustrated book entitled, "Marketable Packaging" has just been published by Lippincott & Margulies, Inc., package designers.

Some of the chapters in this book are "Why Is Packaging A Top Management Problem?", "Eight Reasons Why Packaging Is So Important Today," "By What Means Does Package Design Build Sales," "How Can A New Package Be Evaluated Before Marketing?", and "What Are The Steps In A Design Program?"

Saving on Distribution Costs

One effective way to tackle distribution costs is in material handling. This has particular appeal because it means no business up-set in retail and wholesale relations or in any of the phases of distribution which begin with the sales department and work out toward the ultimate consumer.

There have been estimates by industrial engineers that 22 cents of every dollar spent on labor by industry goes into the handling of materials in the course of its process from the original supplier through the factory, the distribution machinery, until it reaches the consumer. About six cents of this cost is involved in getting the finished product to the consumer.

A system of handling goods, which is bringing some remarkable savings in storage and shipping, is being put into operation by a number of companies. The system is usually called the unit loading system. In unit loading cartons, cases, packages, etc. are combined into machine-size loads. These loads then travel as one unit or a single package through the entire system of distribution. This may involve many transfers such as to trucks, to railway cars, again to trucks and so on. As much as 6,000 pounds can be handled as one unit by fork-trucks from factory to retailer with a minimum of manpower. For instance, it is reported that Pepsi-Cola has reduced the loading time of its trucks, which carry 200 cases of 24 bottles each, from two hours to five minutes. In this case the unit load of 50 cases to a pallet are stacked at the end of the production line, from here fork-trucks pick up this unit and lift it to trucks at the loading platform. This 200 case load can be put on the truck in less time than it formerly took man-power to place 10 cases.

One of the leading cheese companies is reported to have increased its available storage facilities half as much again and achieved a 50 per cent reduction in package handling by the use of this unit system.

The unit system of warehousing and shipping is not new, but with a substantial increase in labor costs it is being developed in many companies to a degree of efficiency and a saving in cost that in many cases has been startling.

NEW PRODUCTS AND NEW PACKAGES

ALMAY'S new toilet water, Mist, is a result of the skillful blending of fifty-three different ingredients. This subtle scent gives off the properties of attar of rose, sandalwood and Mousse de Chene in a springish, summerish fragrance.

AMOREX CORPORATION, in answer to popular demand, has developed the first ammonia-urea blend in pleasant flavored tooth paste. Phil Kalech Company is responsible for the merchandising and distribution of AmoRex.

BORDEN'S Gerilac, the first special food for the aged to meet the requirements of the Council on Foods and Nutrition of the AMA, is a powdered milk-base product, high in vitamins, minerals and protiens, but low in caloric value.

BRISTOL LABORATORIES INC has developed crystalline procaine penicillin G potassium for aqueous injection. The addition of water or isotonic solution of sodium chloride to the product, Pe.-Aqua, provides a suspension containing 300,000 units per cc. of crystalline procaine penicillin G and 100,000 units per cc. of buffered crystalline penicillin G. potassium.

CIBA PHARMACEUTICAL PRODUCTS, INC., is ready to introduce to the market two new products, Pyribenzamine-Ephedrine and Pyribenzamine Nasal Solution in Nebulizer. The first is in tablet form and is designed to nullify the effects of histamine. The nasal solution is for the relief of nasal congestion due to or associated with allergy.

DERMETICS is introducing a new Hand Dress, softly pink in color, a blend of over five materials well known to the industry. Dermetics Summer Lotion, twin packaged with their S. A. Cleanser, provides "a private oasis for sweltering faces" we are led to believe.

DREW PHARMACAL CO., INC., announces that Zilatone, the choleretic-digestant-laxative, is now available in a new 20 tablet size, while the package for all sizes has been modernized.

FABERGE'S Shower Shaker is a new waterproof cylinder of light plastic, filled with a generous Faberge bath powder in either of four scents . . . Aphrodisia, Woodhue, Tigress or Straw Hat.

LEDERLE LABORATORIES is now distributing new 50 mg. capsules of Aureomycin, indicated for treatment of a typical pneumonia, Rocky Mountain spotted fever, undulant fever, psittocosis and many Gram-positive and Gram-negative infections. Its primary use is in pediatrics.

LE SONIER is responsible for a new development in sachet gifts. Congratulatory, birthday, and bread-and-butter messages are painted on the silken surfaces of the scented pillows.

JEAN NATÈ introduces a new Travel Kit for summer selling. The kit, large enough to hold toilet requis tes and small enough to be tucked in the corner of a suitcase, is of durable vinylite . . . transparent on the front, and backed with green. It contains a battle holding 9 oz. of Friction pour le bain.

JEAN PATOU introduces a face powder, Pouder Joy, as a companion to Joy Perfume. The powder is packaged in ebony plastic with the Jean Patou insignia engraved in gold on the circular box.

DR. LYON'S Ammoniated Tooth Powder, containing di-basic ammonium phosphate and carbamide, is ready for immediate distribution. The container, designed by Dancer-Fitzgerald-Sample, Inc., and executed by Continental Can Company, has dark blue lettering on a white background.

MARCELLE COSMETICS, INC., has introduced a new package for its dusting powder. In Chinese red, the box blends with the color scheme used on all items of the Marcelle hypoallergenic cosmetic line.

MENNEN COMPANY is ready to market an innovation in the baby field. Perched atop the blue and white striped baby powder can is a bright pink rattle, which serves as an attraction and distraction for baby during the rough ordeal of diaper changing amenities. Around the border of the can is the phrase, "I'm a rattle-shake me."

MILKMAID'S new Spring color promotion, Pink Strawberry, embraces a bright red lipstick, rouge, and nail lacquer, attractively imbedded in a box of strawberries, for display purposes. The items are available for immediate delivery.

JOHN HUDSON MOORE, INC., has planned a compact shaving trio for the traveller called the Airliner. It contains sportsman Shaving Lotion and Cologne, plus a container of Sportsman After Shave Talc.

ORGANON INC. has introduced to the pharmaceutical and medical professions Pregnyl, a highly purified, standardized preparation of human chorionic gonadotrophin, the anterior-pituitary-like principle obtained from pregnancy urine . . . in a new form which allows for great flexibility of dosage.

PARKE, DAVIS & COMPANY has developed Promizole (2, 4′-diamino-5-thiazolylphenly sulfone, P.D. & Co.) in compressed tablets each containing 0.5 Gm. for oral treatment of various forms of tuberculosis, and for oral treatment of leprosy.

SCHERING CORPORATION announces the release of two new antihistaminic preparations, Trimeton Maleate Topical and Trimeton Maleate Elixir. Other new products released by Schering are Estinyl 0.5 mg. Tablets an oral preparation the active constituent of which is ethinyl estradiol, and SEVINON, whose active constituent is undecylenic acid. Sevinon, still in the experimental stage, may prove to be of value in the treatment of psoriasis and neurodermatitis. Interesting results also were obtained in bursitis and other arthopathies.

SCHIAPARELLI'S Snuff line of masculine toiletries boasts three additions, a lather cream, a brushless cream and a new edition of Snuff soap. Also Schiaparelli's Eau de Sante, a rub-down for summer sports fans, will appear on the toilet goods counters after an absence of three years.

SHARP & DOHME announces the national release of Becomvite Tablets, a B-complex and ascorbic acid preparation, supplied in bottles of 30 and 500 tablets. Also for Sharp & Dohme comes news of the availability of Diphtheria Toxoid Protamine Precipitated, Procipitoid, designed to produce the immunizing advantages of alum precipitated without the disagreeable reactions which sometimes result.

E. R. SQUIBB & SONS have introduced to the market Amnestrogen Tablets, to be used orally, with potency expressed as milligrams of sodium estrone sulfate. Tablets of four potencies are available; 0.3 mg., 0.625 mg., 1.25 mg., and 2.5 mg., each appropriately colored.

Broder does it again

COMPLETELY REVOLUTIONARY

PRECISION PROPULSION

4 PIN CUP SWIVEL LIPSTICK CONTAINER*

Wholly different from anything ever made

Fool-proof mechanism as accurate and velvet-smooth as a precision watch movement

ALWAYS

- Eliminates cup wobble.
- Prevents shearing and taking off sheen of filler.
- Completely locked in four places at all times.
- Cup rides on 4 pins on a double track.
- No jamming — Pins cannot slip out of track
- Eliminates returns due to faulty or defective mechanism.

Plus BRODER patented Free Wheeling — the cup which rides up or down ONLY when the cap is off. Gives you a NON-SMUDGE CAP

In Rich Low DeLuxe All-Polished Brass protected by a Startling New NON TARNISH Lacqeur

LOOKS BETTER . . . WORKS BETTER . . . COSTS LESS

PHONE . . . WIRE . . . WRITE

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INCORPORATED

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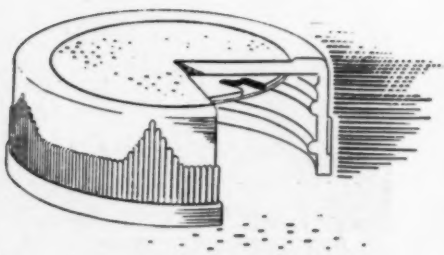
LINER RETAINED—
SEAL MAINTAINED
with Anchor Plasticap*

THE *Anchor* Plasticap is distinguished from ordinary styles of molded caps by a patented liner retaining ledge and recess. This, in addition to permitting the use of a full size liner which completely covers the sealing surface of the container, holds the liner flat, allows it to rotate freely, prevents buckling, wrinkling and creeping, and assures a dependable airtight, leakproof seal until contents are consumed.

The Plasticap is impervious to acids, alkalis, moisture, heat, cold, alcohol, oil and other destructive agents. It will not rust, corrode, swell, dry out or shrink.

And it adds definite sales appeal to your package. It is easy to remove and replace and protects contents until entirely consumed.

* Trade-Mark



ANCHOR HOCKING
GLASS CORPORATION
Lancaster, Ohio

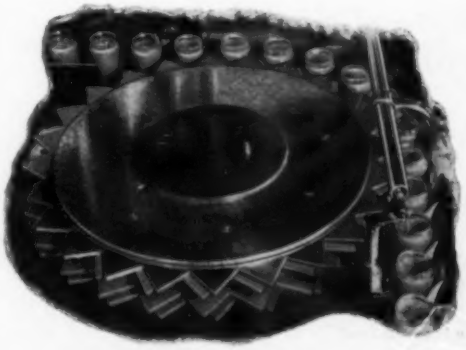
FEEDING THROUGH STARS...
It's tough, uniform Anchorglass*

HELICOIDS and star wheels synchronize and time glass containers for the following station in production without deviation and at seemingly incredible speeds. It takes strong, tough, uniform bodied containers here to keep production flowing on a smooth, even keel.

Anchorglass containers have a background of such proven performance. Practical engineered designs—consistency in manufacture—accurate temperature controls in annealing—strict quality control—a constant emphasis on highest manufacturing standards—all contribute to the high level, dependable performance of *Anchorglass*.

Anchorglass containers are available in all standard styles, capacities and finishes, in crystal, amber and emerald green glass. Samples for comparative or test purposes gladly supplied on request.

*Reg. U. S. Pat. Off.



ANCHOR HOCKING
GLASS CORPORATION
Lancaster, Ohio

New Perfection DROPPING PARTS

For Attractive Appearance . . .
. . . Perfect Performance

The New Perfection line of dropping parts is designed to meet your exacting demand for modern-looking units that function perfectly. We know that the user's satisfaction with your product may depend upon the reliability of the dropper—And, New Perfection dropping parts present your preparation at its very best.

The New Perfection reputation for excellence is maintained by use of the best quality materials, scrupulous attention to cleanliness and rigid inspection of all parts before delivery.

DROPPER GLASSES

are available in a wide variety of styles and sizes: plain or CALIBRATED in any color to mark specific dosages.

BULBS

are supplied in many styles and colors. Non-swelling, AMEKINE synthetic rubber is used for oil preparations: natural rubber is supplied for other products.

CAPS

of plastic or metal, can be furnished in a complete range of sizes and colors.

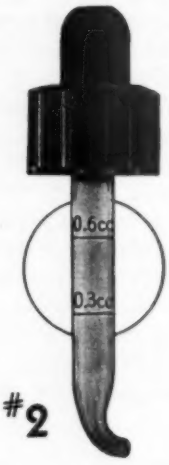
BOTTLES

in an attractive modernistic style in Amber, Blue, Green or Clear glass, are available, complete with dropping parts, in the following sizes: 2 cc., ⅙, ¼, ½, 1 and 2 oz.

DROPPER GLASSES CAN BE

CALIBRATED
IN COLOR

An inexpensive extra that adds great convenience to the use of your preparation. The dosage you desire in the color you specify is accurately and permanently printed on the dropper glass. Trade-marks and firm names can also be imprinted.



We Can Supply Dropping Parts To Fit Your Bottles or Furnish Complete With Our Own Bottles

Write for Samples and Quotations

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"Glass Goods of the Better Kind"

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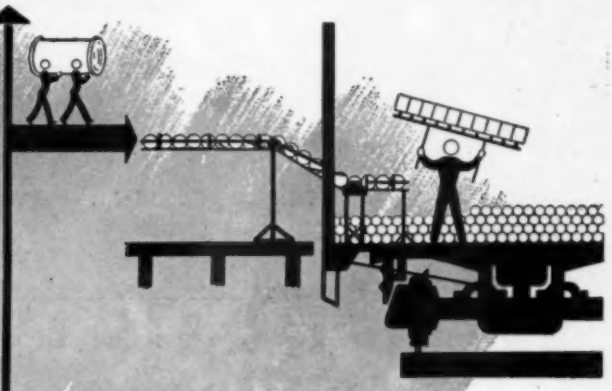
"there's a Bonus in doing Business with National Can"

CHECK
your container source
for **SUPPLY**
and **SERVICE**



✓ ***Ample Supply*** — always enough containers, as proved by the satisfaction of our many customers during even the lean supply years of the war.

✓ ***Prompt Delivery*** — a policy conformed to during National Can's history of nearly 50 years of container manufacture . . . a record for making deliveries when needed — where needed.

✓ ***Experienced Service*** — a choice of available services — technical, mechanical, or lithographic — for the food packer or the general container user. And at your command is our fund of production ideas, selectively gathered through the years, constantly re-examined, tested and renewed.

✓ Well-rounded service and dependable supply are only a part of the bonus values you get with National Can metal containers that are made to rigid standards of accuracy and high quality. Check these advantages and learn how they may help you by calling our nearest sales office or plant.

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7415

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CARR-LOWREY *Stock Bottles*

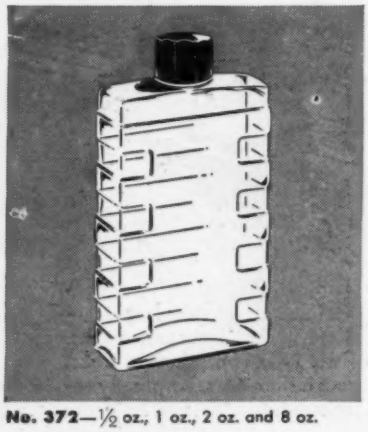
for perfume, toilet water and cosmetic products

Here are just a few of the styles which have always been popular. While these illustrations will be of value in helping you select the type of bottle to suit your product, we suggest you send for samples so that you can inspect the actual bottles at your leisure. If the style you want is not shown, our representative will be glad to make suggestions from our large assortment of stock designs.

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE 3, MD.

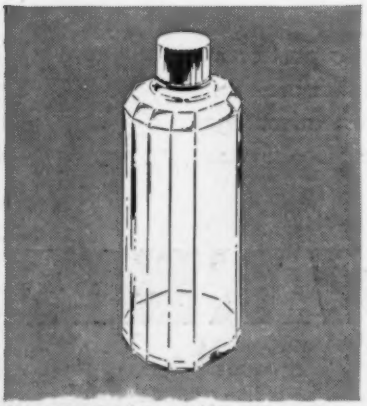
New York Office: 40 WEST FORTIETH STREET • *Chicago Office:* 1502 MERCHANDISE MART



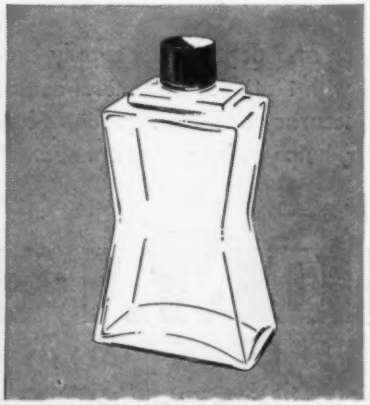
No. 372—½ oz., 1 oz., 2 oz. and 8 oz.

No. 369—½ oz., 1 oz., 2 oz., 3 oz., 4 oz., 6 oz. and 8 oz.

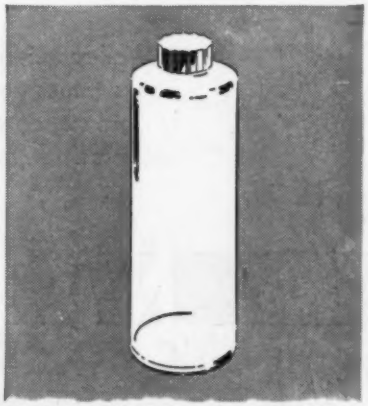
No. 387—Jar—1¾ oz. and 3 oz.



No. 368—3-3/16 dr., ½ oz., 1 oz., 2 oz., 3 oz., 4 oz., 6 oz., 8 oz., and 16 oz. Also made in Squat Style in 1oz. and 2 oz.



No. 408—2 dr., ½ oz. 1 oz., 2 oz., 4 oz., 6 oz., and 8 oz. Also 6 oz. Wide Mouth.

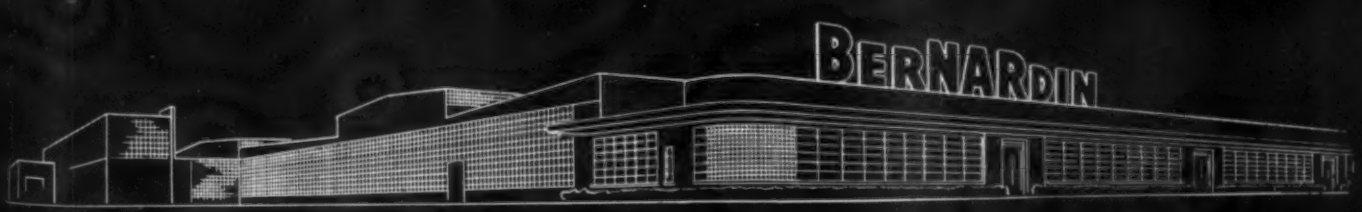


No. 433—Tall Cylinder—4 oz., 8 oz. and 16 oz.

Production EFFICIENCY $ *Sales* APPEAL $ *Consumer* APPROVAL $

Never lose sight of the consumer when you package Your product...

BERNARDIN
Convenience
CLOSURES
IN METAL
AND
PLASTIC



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Since 1881 America's First Manufacturer of Metal Closures

Three symbols of superiority

Coby ampoules are "vacuum-free before snipping." Glass dust that results from snipping operation is *not* sucked within the ampoule. It is, rather, readily drawn up and carried away by giant dust collectors attached to each cutting bench.

Coby ampoules stand up straight without support. Ampoule necks are more concentric with filling needles, and machine-filling is more rapid, and accompanied by less breakage.

Coby ampoules are carefully calipered to ensure greater uniformity of inner volume. When subsequently filled and sealed, Coby ampoules aid materially in finishing the package that "sells on sight".

Coby engineers are constantly developing improvements that continue to make the Coby ampoule a better ampoule. Descriptive circular and price list of regularly stocked ampoules available on request.

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When you think of

BOTTLES

think of Swindell

HAND MADE OR MACHINE MADE...
PRIVATE MOULD OR STOCK BOTTLES
THAT GIVE YOUR PRODUCT ADDED
SALES APPEAL

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by
BRIDGEPORT

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Other Special Metal Products for the Cosmetic Industry

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Established in 1909
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FOR FASTER PACKAGING

LOW IN COST
EASY TO USE

Designed to handle bagged products with a minimum of effort at a maximum speed. Simple adjustments for height . . . tilting forward or backward enables the operator to set machine at easiest position. Stainless steel trough with capacity of 200 bags . . . adjustable to bag sizes. Blower, equipped with air filter, opens bag and keeps it free from foreign matter. It's a time saver!

Send today for
Bulletin No. 5-24

ROCKFORD
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ILLINOIS

GIVE YOUR PRODUCT Shatterproof PROTECTION with LUSTEROID Vials and Tubes

Customers appreciate products packaged in Lusteroid. They know that these products are *safe* from accidental roughness in handling because Lusteroid will not break.

It's worth looking into Lusteroid for product protection *and* distinctive packaging. There's economy in handling, labeling, packing and shipping. All colors of the rainbow—clear or opaque. Sizes from ¼" to 1¼" in diameter and lengths up to 6" with cork, slip-on or screw-cap closures.

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10 Parker Avenue, West
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Top off YOUR BOTTLE OR JAR *with a* RICHFORD METAL CLOSURE

Any Size *Plain or Embossed* *Any Shape*

or

Designed and Manufactured to your Specific Requirements

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221 Fourth Avenue, New York City

NEWS...

Shifts in Dow Executive Staff

Several shifts in the top executive staff of The Dow Chemical Company were made April 5 by the company's Board of Directors as a result of the death March 31 of Dr. Willard H. Dow in a plane crash near London, Ontario, which also took the lives of his wife and three other persons.

EARL W. BENNETT

Earl W. Bennett, Treasurer of the company since 1930, was elected Chairman of the Board, and Leland I. Doan was elected President of the company. Mr. Doan had been a Vice President since 1938 and Secretary since 1941.

Dr. Mark E. Putnam, a Vice President since 1942, was named General Manager.

In the same action two new Vice Presidents were named: Dr. A. P. Beutel, who is general manager of Dow's Texas Division, and Russell L. Curtis, General Manager of the Great Western Division. Carl A. Gerstacker was elected treasurer and Calvin A. Campbell, the firm's legal counsel, was elected secretary.

While Mr. Bennett relinquishes his position as Treasurer, he maintains the vice presidential post to which he was named in 1931. He also remains in the important position of chairman of the company's Finance Committee. Long highly regarded in financial circles, the energetic 69-year-old Board Chairman began his career with Dow in 1900 as bookkeeper for the then infant concern. Two years later he became Auditor and in 1905 Assistant Secretary and Assistant Treasurer. He was elected to the Board of Directors in 1927 and has served on the Board continuously since that time.

Mr. Doan, a brother-in-law of the late Dr. Willard H. Dow, is perhaps best known through his sales department activities which date back to 1918 when, at the age of 24, he entered the industrial chemicals division. He was made assistant sales manager in 1922 and in 1929 became General Sales Manager. He became a member of the Board in 1935 and in 1945 moved into the newly created position of Director of Sales.

Dr. Putnam joined the company in 1915 as a research chemist. He became a director in 1941 and a Vice President the following year. He has also been president of Cliffs Dow Chemical Company since 1939.

Dr. A. P. Beutel started with the company as an engineering draftsman in 1914. When Dow began construction of its Texas division in 1940 he moved there to supervise its construction and become its general manager. He has been Assistant Secretary since 1941,

LELAND I. DOAN

a member of the Board since June 1, 1948, and President of Dowell Incorporated since 1939.

Mr. Curtis has been with the company since 1922 when he started in the insecticide sales division at the age of 32. He was made assistnt sales manager in 1931, and when Dow absorbed the Great Western Electro-chemical Company in 1938, Mr. Curtis moved to San Francisco as executive manager of the West coast project. A few months later he became General Manager of the Great Western Division and in 1941 became an Assistant Secretary. Like Dr. Beutel, he was appointed to the Board of Directors on June 1, 1948.

Mr. Gerstacker started in the auditing and accounting department of Dowell Incorporated, a Dow subsidiary, in 1938. His career there was interrupted by service in the army from 1940 to 1946. Returning after that time to the parent company, he was made assistant director of purchases and was appointed

DR. MARK E. PUTNAM

Assistant Treasurer in March of this year. A director since June 1, 1948, he has also served as a member of the Finance Committee.

Calvin A. Campbell, Dow's General Counsel, entered Dow as head of the legal department in 1935, coming from General Motors' legal department where he had served since his graduation from Harvard Law School in 1928. Now 46, he has been a director since June 1, 1948.

Named to Antara Post

William H. Healey, formerly associated with Arthur D. Little, Inc., has been appointed supervisor of market research for Antara Products, a division of General Aniline & Film Corporation.

Mr. Healy, who was a private consultant before his association with Little Inc., will be concerned chiefly with the division's surface active agents and acetylene chemicals.

During the war, Mr. Healey was with the War Production Board as administrator of the allocation order governing chrome chemicals.

FRED UNGERER

K. G. VOORHEES

I. H. BUDD

H. B. MOORE

Voorhees Elected President of Ungerer

F. H. Ungerer, president of Ungerer & Company, since 1930, was elected Chairman of the Board at a meeting of the Board of Directors, April 11th, held at the Company's plant in Totowa, New Jersey. K. G. Voorhees, executive vice president since 1933, was elected president and treasurer at the same meeting, during which a complete change of officer personnel was effected.

Other changes in the management of this old essential oil, aromatic chemical, perfume specialty and flavoring manufacturer moved I. H. Budd from second vice president to first vice president; H. B. Moore from third vice president to second vice president; W. H. Dunney, Jr. from Secretary to third vice president; and W. A. Bush to secretary.

F. H. Ungerer joined the Company in 1896, three years after it was founded by his father. He was made a director in 1901, president in 1930, and was assigned the additional title of treasurer in 1936. He and the new president, Mr. Voorhees, are responsible for the development of the Company s new modern chemical plant at Totowa, New Jersey. K. G. Voorhees, new president and treasurer, joined the fifty-six year old fi m in 1932, and was elected executive vice president in 1933. He became a director in 1936 and was elected secretary six years later. Since his appointment as executive vice president, he has been in charge of the trading for the Company, as well as the administrative work.

I. H. Budd has been in the essential oil field for over thirty-one years, and has been with Ungerer and Company since 1935. He is also director of sales for the Company and is exceptionally well known in the essential oil business.

H. B. Moore, second vice president, has been with the Company for the past twenty-three years, as a sales representative and comptroller.

W. H. Dunney, Jr., a perfume chemist, for over thirty-two years, has been with Ungerer & Company for fourteen years. He was elected secretary

W. H. DUNNEY, JR.

for the Company earlier this year. He is a member of the Society of American Perfumers and was instrumental in the organization of this Association.

W. A. Bush, a veteran of thirty years standing in the industry, has been with Ungerer & Company for eleven years and is a familiar figure in the essential oil circles.

W. A. BUSH

Proprietary Assn. Meeting

The Proprietary Association holds its convention June 1-3, at the Greenbrier, White Sulphur Springs, W. Va.

Forster to Represent Seebach

Edwin Seebach Company, 912-920 Broadway, New York, has appointed the Rene Forster Company, Inc., as its sole North American sales representative for the promotion of the Seebach perfume compounds and specialties.

The Forster Company will continue to handle aromatic chemicals, essential and natural oils independently under its own firm name. The Rene Forster Company is now located at 66-68 Dey St., New York 7.

Kolmar Canadian Setup

Wally Wick, Executive Vice President of Kolmar Laboratories, is now in Canada where he will supervise plans to bring the Canadian manufacturing operations under the control of Kolmar Laboratories. Rolland Klamert will be in charge of manufacturing and operations.

Mr. Wick will review the entire Canadian situation and make any changes necessary to rebuild and refurbish the plant at Oakville, and plans will be developed for enlarging the plant if it is necessary. This move will put the manufacturing operations under the complete jurisdiction of Kolmar Laboratories and they will coordinate along the same lines that they have successfully used in the states.

Howard on European Trip

Harold B. Howard, vice president of Roubechez, Inc., New York, sailed April 25 for a six weeks trip to Europe where he will visit Brussels, Paris, and Grasse. While in Grasse Mr. Howard expects to visit several of the essential oil houses in the area.

MAKERS OF AMERICA'S FINEST SOAPS FOR TOILET AND BATH

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For many years, Hewitt has made soaps to meet the needs of discriminating customers throughout America.

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Dr. Upjohn Elected President National Vitamin Foundation

Dr. E. Gifford Upjohn, vice-president, The Upjohn Company was elected president of The National Vitamin Foundation for 1949.

Dr. Upjohn succeeds Basil O'Connor,

DR. E. G. UPJOHN

attorney and president of the American Red Cross, who was named to the newly created position of Honorary Chairman of the Board of Governors. J. Paul Folsom, Lederle Laboratories Division, American Cyanamid Company, New York, was elected board chairman, replacing A. H. Fisk, Eli Lilly & Co., Indianapolis, Indiana. H. B. Fonda, Burroughs Wellcome & Co. (U.S.A.) Inc., was elected vice-president, succeeding Raymond E. Horn, Abbott Laboratories, North Chicago, Ill.

Fred J. Stock, vice-president Chas. Pfizer & Co., Inc., Brooklyn, N. Y., elected chairman of the executive committee, succeeding L. D. Barney, Hoffmann-La Roche, Inc., Nutley, N. J., announced expanded plans for research and education on vitamins during 1949 would be considered at a joint meeting of the board of governors and executive committee in New York, May 18.

Other officers of the Foundation remain the same, namely Dr. Robert S. Goodhart, scientific director; Henry K. Urion, secretary, and J. David Hayden, treasurer.

Leuchs Honored

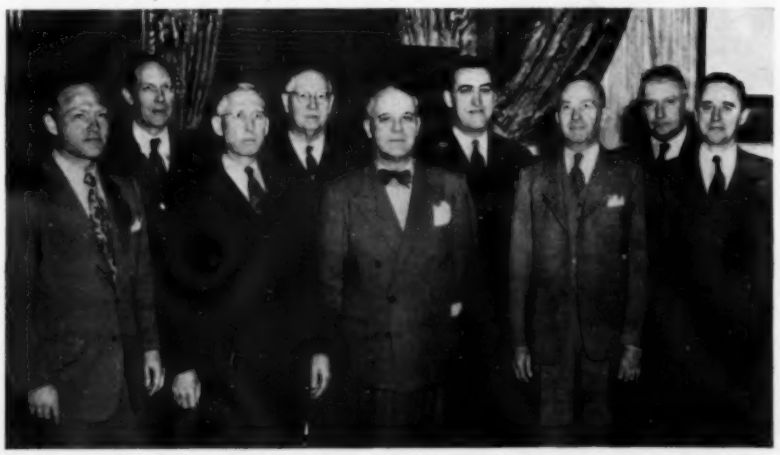
On April 27 the officers of George Lueders & Company, tendered a special luncheon to Adolph Leuchs on the occasion of his fiftieth anniversary with the company. President, F. J. Lueders, presented the usual service pin to Mr. Leuchs. This pin contains two small diamonds, distinguishing it from the twenty-five year pin which, up to the present time, has been presented to 42 employees of the company.

While the luncheon was in progress, a television set, gift of the officers and employees, was being installed in the home of Mr. Leuchs. The luncheon was held at the Ridgewood Country club and among those present were F. Weber, vice president, with the company for 56 years, Harry W. Heister who will celebrate this half century mark in October and Gustave Miller who will round out his 50 years in January 1950. Another member topping the 50 year mark is Edward V. Killeen, 58 years with the company.

Polak & Schwarz, Inc., in New Chicago Site

Polak & Schwarz, Inc., has announced the removal of its Chicago offices from 400 West Madison St., to 173 West Madison St., Chicago.

Pictured here are the officers of the Associated Drug and Chemical Industries of Missouri, Inc., with guest, Smith L. Rairdon, of the Owens Illinois Glass Company, who spoke at the association. Shown here are, front row: Neal Draper, Solvay Sales division, Allied Chemical & Dye Corp.; Dr. Arthur F. Schlichting, Dean of St. Louis College of Pharmacy; Marvin Yates Marvin Yates Co.; J. Louis Lanz, consultant; Otway W. Rash, Lambert Pharmacal Co.; Back Row; Dr. Carl J. Klemme, St. Louis College of Pharmacy; John A. Mueller, S. Pfeiffer Mfg. Co.; Mr. Rairdon; Paul A. Hein, Mallinckrodt Chemical Works.



McNeil Appoints Kade

McNeil Laboratories has appointed Dr. Charles F. Kade, Jr., as director, division of medical sciences. In this capacity, he will direct the research and development activities of the company.

DR. C. KADE. JR.

Dr. Kade was director of biochemical research from 1943 to 1947 for Frederick Stearns and Company and subsequently was transferred to the Sterling-Winthrop Research Institute where he was an associate member of the Institute.

Daughter to Penick's

On April 26 at the Mountainside Hospital, Montclair, N. J., a daughter was born to Mr. and Mrs. S. Barksdale Penick Jr. Mr. Penick is president of S. B. Penick & Co.

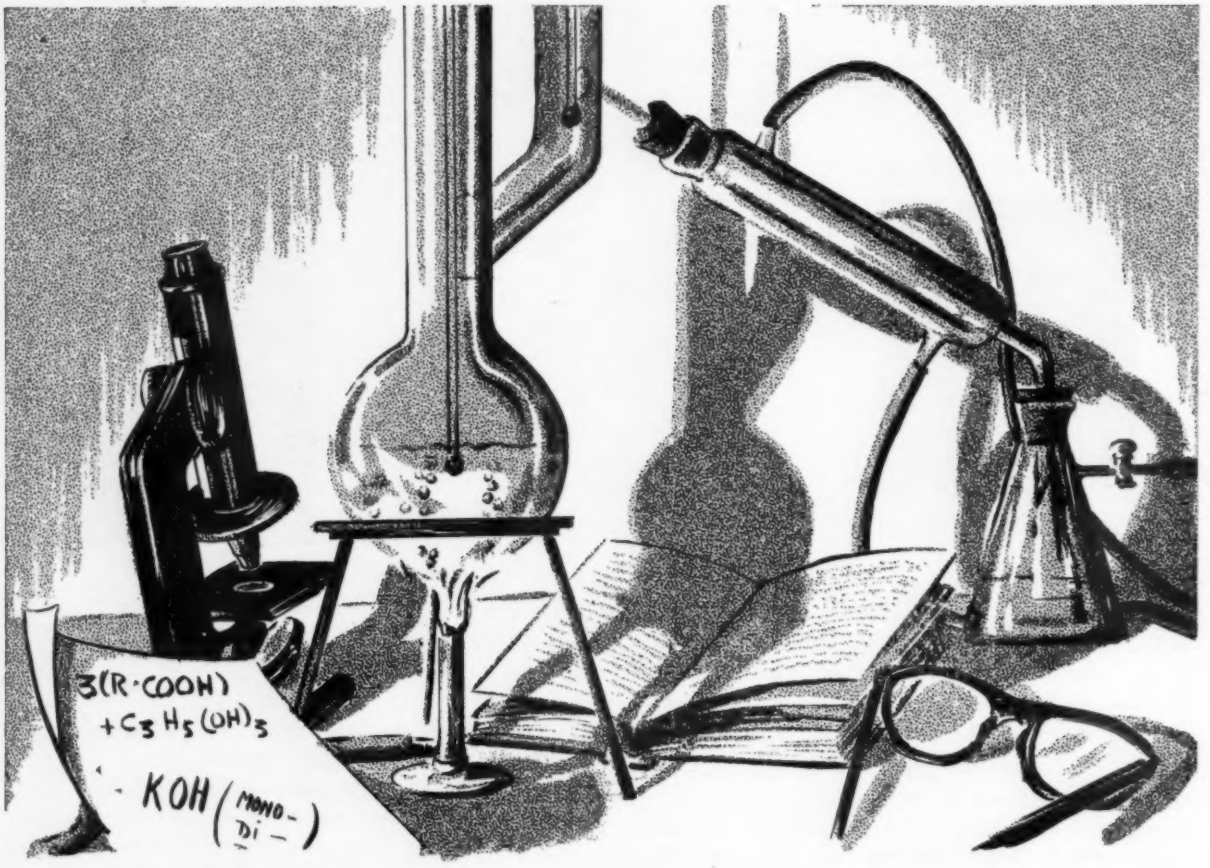
French Named Consultant for Perfume Industry

J. S. Wiedhopf, chairman of the Committee on the Use and Marketing of Perfume Products, has announced the appointment of Miriam Gibson French as public relations consultant.

Mrs. French will continue for the time being to handle publicity for excise tax repeal for the Toilet Goods Association but at the conclusion of that campaign will devote her entire time to the work of the Committee. Previously, she had been promotion director and beauty editor of Charm Magazine. Before that she was publicity director of Shulton, Inc.

Purepac Acquires "Alcorub"

Purepac Corporation has made known the complete acquisition, including trade-mark, formula, manufacturing and distribution rights of "Alcorub" the "Original Rubbing Alcohol" from U. S. Industrial Chemicals Inc.



SEARCH and RESEARCH

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Stearic Acid
Tallow Fatty Acids
Red Oil (Oleic)
White Oleine
Coconut Fatty Acids
Cottonseed Fatty Acids
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Fatty Acids
Saponification
Crude Glycerine
Stearine Pitch
Cottonseed Pitch
Hydrogenated
Tallow Fatty Acids

Search and research at A. Gross' laboratories never stops. We can give you many examples of the results. For instance, there's A. Gross' Stearic Acid for monostearate production which is noted for its color stability, mildness of odor and assurance of longer shelf life of end products.

Or there's the Gross series of Coconut Fatty Acids—every one of their merits confirmed by actual plant results. Or the Gross Red Oil with its preferred odor, low titre, comparative purity. We could continue along these lines but why not write for our booklet describing Gross products today? Better still, why not ask for a sample, too?

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J. C. Ackerman
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Nelson Chemical Corp.
Detroit 27, Mich.

Moreland Chemical Co.
Spartanburg, S. C.

Smead & Small, Inc.
Cleveland 15, O.

Braun-Knecht-Heimann Co.
San Francisco 19, Calif.

Braun Corp.
Los Angeles 21, Calif.

Charles Albert Smith, Ltd.
Toronto 3, Canada

Thompson Hayward Chemical Co.
Kansas City 8, Mo. (And Branches)

James O. Meyers & Sons
Kenmore, Buffalo, New York

Snyder Tool Buys Colton Co.

Following the purchase of the Arthur Colton Company of Detroit by Snyder Tool & Engineering Company, Detroit, Clarence Snyder, chairman of the board

K. B. HOLLIDGE

of the Snyder Company has announced the following as Colton Company officers: Clarence Snyder, chairman of the board and vice president; Howard N. Maynard, president and treasurer; K. B. Hollidge, executive vice president and secretary; Harvey W. Purdy, assistant secretary; Samuel D. Harrison, assistant treasurer; Alfred W. Kath, director of engineering, and Nelson Carman, director of sales.

Berje Opens Midwest Branch

Berje Products Company has opened a new office and stockroom in Kansas City, Mo., under the managership of George N. Cox. The office is located at 319 W. 9 St., and will cover sales throughout the entire Midwest.

Buys Cosmetic Firm

N. A. Stavroudis has purchased the cosmetic manufacturing business of the orginal Renee Thornton, established in 1928.

The business will be conducted under the name of Renee Thornton Cosmetics, Inc., with offices at 2 W. 47 St., New York, and will be under the management of R. M. Kadjar, who in the past 24 years has been associated with such firms as Elizabeth Arden, Helena Rubinstein and Parfums Schiaparelli.

APMA Convention

The American Pharmaceutical Manufacturers Association is holding its convention June 9-11 at the Homestead Hotel, Hot Springs, Va.

Three in New Dow Positions

Donald Williams was appointed Director of Sales of the Dow Chemical Company, April 11. A graduate of Pennsylvania State College, Mr. Williams joined the Dow Sales staff in 1924 as a member of the Insecticide Division. He subsequently transferred to Dowflake Sales and was in charge of that divison from 1929 until 1933, when he was appointed Assistant General Sales Manager. In 1945 he became General Sales Manager. Mr. Williams succeeds Leland I. Doan, former Director of Sales.

DON BALLMAN

Donald K. Ballman, general sales Manager was graduated from Indiana University in 1929 and joined the Dow sales force in 1935 in Insecticide Sales, specializing in the development and sale of fungicides and wood preservatives. In 1943 Mr. Ballman headed the Technical Service and Development Division and in 1945 was appointed Assistant General Sales Manager. Mr. Ballman succeeds Donald Williams, former General Sales Manager.

Dr. L. S. Roehm, Manager Technical Service and Development Division was appointed Assistant General Sales Manager to succeed Donald K. Ballman.

Celebrates Anniversary in Trade

Al Mullen celebrated his twenty-fifth anniversary in the field of private brand cosmetic manufacturing during April. Many of Al's friends remember back in 1924 when he organized the American Perfumers' Laboratories, Inc., later to become the A.P.L.I. private brand division of Avon-Allied Products. Mr. Mullen has been the executive head of the private brand operation for the past twenty-five years.

Dr. Cain Resigns Foundation Post

Dr. Russell A. Cain resigned as director of the Therapeutic Research Foundation, effective April 30, to enter the consulting business. The business operations of the Foundation are now being handled through the offices of the Proprietary Association under the director of Dr. Frederick J. Cullen. The Scientific Advisory staff, consisting of Dr. Harvey B. Haag, Chairman, Dr. Seevers and Dr. Cattell, will continue as in the past.

Frank Zackman, in charge of packages and packaging material for E. R. Squibb & Sons, receiving from Carleton H. Palmer, chairman of the board of Squibb, a pin commemorating forty years of service to the company. The presentation was made at a dinner April 27 at the Towers Hotel, Brooklyn, attended by close to 150 friends and associates of Mr. Zackman.

You Get Commercial Chemicals with Laboratory Purity . . .

When You Order Hooker Sulfides

With a maximum iron content of only 8PPM in Hooker Sodium Sulfide and only 5PPM in the Sodium Sulfhydrate you can understand why we are proud of the purity of these Hooker Sulfides. This minute amount of iron is matched by an especially low amount of other impurities in these Hooker products.

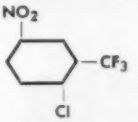
Packaged in the form of small flakes, both products are quickly and completely soluble in water. The clear solution can be used without settling or decanting. For smooth reactions—for good yields without troublesome side reactions from impurities, your safest course is to use Hooker Sulfides.

Advanced manufacturing techniques, carefully controlled operations, carefully selected raw materials account for Hooker's ability to produce these pure sulfides on a commercial basis.

As an added convenience for those who use sodium sulfhydrate in large quantities this chemical is also available in liquid form in tank car quantities. Liquid sodium sulfhydrate is shipped in concentrations of approximately 37% or 45%. Specifications will be furnished upon request.

Technical Data Sheets and samples will be sent to qualified personnel making requests on their business letterheads.

HOOKER RESEARCH PRESENTS
2-CHLORO-5-NITROBENZOTRIFLUORIDE



Synonym	2-chloro-5-nitrotrifluoromethylbenzene
Molecular Weight	225.56
Freezing Point (l.c.p.)	16.8°C
Boiling Point	230.0°C
Refractive Index n20/D	1.5009
Specific Gravity, 25/15.5°C	1.5520

Another new development of Hooker Research in benzotrifluorides is 2-chloro-5-nitrobenzotrifluoride. It is a straw colored, thin, oily liquid. Because this chemical is so new, information available on its uses is limited. Literature does indicate however, its use as an intermediate in the preparation of dyestuffs.

Hooker 2-chloro-5-nitrobenzotrifluoride is at present available in pilot plant quantities.

Those who are interested in investigating the potentials of 2-chloro-5-nitrobenzotrifluoride may obtain samples by writing on their business letterheads. Technical Data sheets giving more complete physical and chemical information are also available.

DESCRIPTION	ANALYSIS	USES
SODIUM SULFIDE Na_2S Mol. Wt. .... 78.1 M. P. ..... 100°C Light buff colored solid in flake form. Rapidly soluble in water; slightly soluble in alcohol; insoluble in ether.	Na_2S ..... 60 to 62% NaCl ..... 1.5% Max. Other Na Salts ..... 2.0% Max. Fe ..... 8 ppm Max. Cu, Ni, Cr, Mn, Pb ..... 1 ppm Max. Water of crystallization .. 36.5 to 34.5%	In unhairing hides and wool pulling; desulfurizing viscose rayon; in manufacture of dyestuffs, chemical intermediates, paper pulp, soap and rubber, as an ingredient of dye liquor for textile dyeing; boiling out linen; ore flotation and metal refining. SHIPPING CONTAINERS Steel drums ..... 90 and 350 lbs. net
SODIUM SULFHYDRATE NaSH (sodium hydrosulfide) Mol. Wt. .... 56.1 M. P. ..... 55°C Light lemon colored solid in flake form. Completely and rapidly soluble in water, alcohol and ether.	NaSH ..... 70 to 72% Na_2S ..... 2.5% Max. NaCl ..... 0.8% Max. Na_2SO_3 and $NaHCO_3$ ..... 0.4% Max. Fe ..... 5 ppm Max. Cu, Ni, Cr, Mn, Pb ..... 1 ppm Max. Water of crystallization ..... 28 to 26%	In unhairing hides, in desulfurizing viscose rayon; in preparation of dyestuffs and other organic chemicals such as thioamides, thiourea, thioglycolic acid, thio- and dithiobenzoic acids, sodium thiosulfate. SHIPPING CONTAINERS Flake: Lacquer-lined steel drums..90; 350 lbs. net Liquid: Tank Cars .....

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HOOKER CHEMICALS

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Calco Consolidates Research Development and Technical Service Depts.

A consolidation of research, process development and dyes technical service into a single department has been announced by S. C. Moody, vice president and general manager of Calco Chemical division, American Cyanamid Company, Boundbrook, N. J.

The new department will be known as the research and development department. K. H. Klipstein, assistant general manager, Calco Chemical division, is in charge of the department.

Dr. H. Z. Lecher has been named director of research in charge of chemical research department. Dr. Mario Scalera has been appointed assistant director of research and Dr. R. P. Parker, assistant director of research, is in charge of the pharmaceutical research section. Dr. R. H. Kienle and Dr. A. L. Parker are, respectively, director and associate director of application research for fundamental and applied physical chemistry as it relates to all products as well as technical service in the field of dyes.

Dr. M. L. Crossley, under whose direction Calco's Research Department has been developed into one of the nation's most important industrial research centers, is retiring in August, 1949. Dr. Crossley will act as special consultant to Mr. Moody, General Manager, and to the heads of the Research and Development Department.

Martin in Diamond Alkali Sales Spot

The appointment of George J. Martin, as special sales staff assistant with Diamond Alkali Company has been announced by Fred W. Fraley, sales vice president.

Mr. Martin has a background of 20 year's chemical sales and admistrative experience. Since 1947 he had been with Carl Antholz, Inc., Newark, N. J. For the previous 18 years, Martin was associated with Sandoz Chemical Works, Inc., New York.

He will make his headquarters at Diamond's general offices in Cleveland, where he will work under the direction of Charles E. Grant, manager of chromium chemical sales.

A. C. Drury Co. To Represent Antoine Chiris

Frederick E. Shoninger, president of Antoine Chiris Company, Inc., has announced that A. C. Drury & Company Inc., 219 East North Water St., Chicago, have been appointed special representatives for the Chiris concern.

The Drury company will represent the Chiris products imported from France and manufactured in America, in the Middle West.

Sophie Goode on Latin American Tour

Sophie Goode, public relations director for Faberge Perfumes sail d April 8 for a three-months' tour of South and Central America.

On her trip, which combines pleasure with business, Miss Goode will visit thirteen countries and report on the perfume preferences of Latin-American women and current conditions in that market.

Enjay Appoints Two

Appointment of Clayton M. Beamer as manager of alcohol and chemical sales has been announced by Enjay Company, Co., chemical products marketing affiliate of Esso Standard Oil Company. Joseph E. Harrington succeeds Mr. Beamer as technical service coordinator of the alcohol-chemical group.

Mr. Beamer joined Esso Standard Oil on graduation from the Virginia Military Institute in 1929 and most of his experience has been with the chemical products department. He was transferred to Enjay Company as technical service coordinator of alcohols and chemicals in 1948.

Dr. Strade Joins White Labs.

The appointment of Dr. Henry Allen Strade as assistant medical director of White Laboratories, Inc., has been announced. Dr. Strade is a graduate of Columbia Medical School and is a member of the New York Academy of Science. Prior to joining White Laboratories he held a research fellowship at St. Luke's Hospital in New York.

Merck Appoints R. M. Prather

Robert M. Prather has joined Merck & Company, Inc., as manager of the market research department. Mr. Prather has had wide experience in this field, and prior to assuming his present duties, was with the Indoil Chemical Company, in Chicago.

Wants American License

N. Gould of The Bevington Merchandising Company, Ltd., 62 Stoney Lane, London, England, was a visitor in New York for several weeks. While here, Mr. Gould contacted cosmetic manufacturers with the view of producting their cosmetic products in England under license. Parties interested may reach Mr. Gould at the address listed above.

Berje Moves to New N. Y. Location

Berje Products Company has announced the removal of its factory and office to 12 West End Ave., New York 1, N. Y.

Abbott Employees Awarded Prize for Suggestion

Twenty-seven employes of Abbott Laboratories were the guest of president R. E. Horn at a dinner April 18. They were the champions of 477 employes who had turned in 1169 suggestions during the year for improving production methods and processes.

Marking the opening of the Mennen plant in Havana, Cuba were Mr. and Mrs. Mennen and their two sons. Shown here are Mrs. Mennen (wearing corsage) standing between Mr. Mennen and William G. Mennen, Jr., vice president of the company. Other members of the firm who attended were George S. Mennen, vice president (far right), W. C. Martens, vice president and Joseph Jorda, export manager. Executives of the Cuban Company were also in attendance.

George Merck Elected Chairman of Board

George W. Merck, president of Merck & Co., has also been elected chairman of the board of directors of the company, a position vacated by the resignation of Frederic Rosengarten, board chairman since the merger of Merck & Co. with Powers-Weightman-Rosengarten in 1927. Mr. Rosengarten will continue as a director. All other officers were reelected.

McDonough Visits Europe

Dr. Everett G. McDonough, vice president of Evans Research and Development Corporation is leaving on April 22 for England and the Continent to observe at close hand current trends and techniques in research in Europe. During the trip Dr. McDonough will visit Evans Chemicals, Ltd., Boreham Wood, Herts, England. He is vice president of Evans Chemetics, Inc., which is the American associate of this company.

Tamms Opens New Detroit Office

The Tamms Silica Company, with general offices at 228 N. LaSalle St., Chicago, announces the opening of an office and warehouse at 1900 Alfred St., Detroit, Mich.

Harold J. Doty, who has been a sales representative of the company for many years, will be in charge of the new office.

Tamms will stock numerous raw materials for paint and polish manufacturers in the new warehouse to facilitate speedier, more economical distribution of its products to the trade. In addition to raw materials, the company manufactures a complete line of water-mix paints, colors, household sundries and inerts for paint grinders.

The new Detroit phone number is Lorain 7-8794

Standard-Knapp & Plax Merge Chicago Office

Standard-Knapp and Plax Corporation, both of which are operating divisions of Hartford-Empire Company, have combined their Chicago offices. The Plax staff moved from its location at 35 East Wacker Drive into enlarged quarters occupied by Standard-Knapp at 221 North LaSalle Street.

Standard-Knapp, which manufactures automatic packaging machinery, has its plant and main offices in Portland, Conn. Plax Corporation, which supplies plastics for packaging and other uses, has its plant and main offices in Hartford, Conn.

Mathieson Management Changes

Mathieson Chemical Corporation has made several changes in operating management due to the increase in the number of plants resulting from recent

DR. C. PRUTTON

acquisitions. Dr. Carl F. Prutton has been appointed vice president-director of operations of all the company's plants and Arthur T. Bennett, vice president, was placed in charge of the eight plants acquired from Southern Acid and Sulphur Company. R. B. Worthy and J. F. Newell were named vice presidents.

Thomas S. Nichols, president of the company, announced that Dr. Prutton, who joined Mathieson last year as director of research, will have charge of research and supervise operations of all the company's plants including those recently acquired. His headquarters will be in the Mathieson New York offices. Mr. Bennett will have his headquarters in Houston. Mr. Worthy will be in charge of the plants acquired from Standard Wholesale Phosphate and Acid Works as well as the Satltville, Va., plant, of which he has been man-

ARTHUR BENNETT

ager. Mr. Newell remains at Lake Charles, La., where he has been in charge of the alkali and ammonia plants.

Before joining Mathieson in 1948, Dr. Prutton was head of the Department of Chemistry and Chemical Engineering at Case School of Applied Science, a consultant to a number of chemical companies and, from 1942 to 1944, Chief of the Process Development Branch of the Office of Rubber Director and consultant to the War Production Board.

Mr. Bennett joined Mathieson as a technical assistant in 1933. Subsequently he served as superintendent of the soda ash department at the Lake Charles plant, as assistant manager at the Saltville plant, assistant director of operations in New York, manager of operations, and in 1946 was made vice president-manager of operations.

Born in South Dakota, Mr. Worthy has been with Mathieson since 1925. Starting as an assistant engineer at the Saltville plant, he held successive posts at the plant as general superintendent, head of the engineering department, assistant manager, acting manager and, in 1943, was made manager of the Saltville operations.

Mr. Newell is a native of Michigan and received his B.S. and M.E. degrees from the University of Michigan. He came to Mathieson in 1931, after several years with other chemical companies, to become general superintendent of the Saltville plant. In 1939, he was named assistant manager of the Niagara Falls plant and in 1944 became manager of the Lake Charles operations.

Givaudan Flavors Inc.

The formation of Givaudan Flavors Inc., a new corporation devoted exclusively to the production and sales of flavors, has been announced by Givaudan-Delawanna, Inc. The new affiliate will take over the activity of the flavor division of the company.

Givaudan Flavors Inc. will be managed by Paul Adams, who has been active in the flavor industry in America and Switzerland for a period of eighteen years.

According to Mr. Adams, the company will produce both true fruit and imitation flavors, as well as combinations of true fruit flavors and imitations.

Executive and sales offices will be maintained at 330 West 42nd Street, New York, N. Y.

Kolin Heads Heart Drive for Cosmetic Industry

Oscar Kolin, vice president of Helena Rubinstein, Inc., has been named chairman of the campaign of the New York Heart Association for the cosmetic industry.

Huggins Named V.P.

The Horix Manufacturing Company has announced the appointment of L. Gale Huggins as vice president and general manager. Mr. Huggins is a

L. GALE HUGGINS

graduate of the University of Arkansas and has spent the last 26 years in various design, development and application engineering with the Westinghouse Electric Corporation.

His duties with Horix will include new developments, coordination of engineering, sales and manufacturing.

Interdonati Heads the Chem. Dept.

Henry Interdonati, for the past nine years head of the chemical department of S. B. Penick & Co., has been named to head the chemical department of George Uhe Co., New York, according to an announcement made this week by George Uhe, president of the company.

Isco Appoints M. H. Quartz

Innis, Speiden & Company, has announced the appointment of Milton H. Quartz as assistant treasurer. Mr. Quartz has been Isco's credit manager for the past twelve years and will continue in that capacity.

Cochrane Acquires Liquid Conditioning Corporation

Cochrane Corporation, Philadelphia, manufacturers of water conditioning equipment and steam specialties, announces the acquisition for cash of substantially all of the capital stock of Liquid Conditioning Corporation, of Linden, New Jersey, which manufactures a complete line of equipment for the conditioning of water and other liquids, under the trade name, "Liquon." Hereafter, Liquid Conditioning Corporation will operate as a wholly owned subsidiary of Cochrane Corporation, the products of the former continuing to be marketed under the trade name, "Liquon."

Dr. Dow Killed

Dr. Williard H. Dow, president and chairman of the board of the Dow Chemical Company, was killed March 31 when a private plane crashed and burned near London, Ontario. Mr. Dow's wife, Martha, Mrs. Alta Campbell and two pilots were also killed. Mrs. Campbell's husband, Calva Campbell, head of the Dow legal department, was the sole survivor. The party was en route to attend the Massachusetts Institute of Technology convocation which Winston Churchill addressed. Dr. Dow's son, Herbert H. II, is a student at M. I. T.

Dr. Dow, who was 52 years old when he died, joined the company in 1919 as a chemical engineer and served in various positions, being named a director in 1922 and assistant general manager in 1926. Following the death of his father, Dr. Herbert H. Dow in 1930, he became president and general manager. In 1941 he became chairman of the board. Dr. Dow was also president of the Ethyl-Dow Chemical Company, the Dow Chemical Company of Canada, Ltd., and the Midland Ammonia Company.

He was a member of the American Chemical Society, the American Institute of Chemical Engineers, and the American Institute of Chemists. He held an honorary degree of doctor of science

DR. WILLARD H. DOW

from the Michigan College of Mining and Technology, and an honorary doctorate of English from the Illinois Institute of Technology. He was awarded the Charles Frederick Chandler Medal of Columbia University in 1943 for "the achievements of the Dow Chemical Company in the production of bromine from seawater, of magnesium from seawater, of synthetic plastic and synthetic rubber, which are among the most spectacular and valuable achievements of modern times."

Heads Squibb Institute

The appointment of Dr. Geoffrey W. Rake as director of the Squibb Institute for Medical Research has been announced by Carleton H. Palmer,

DR. GEOFFREY W. RAKE

chairman of the board of E. R. Squibb & Sons.

Dr. Rake is assuming the duties of director following the resignation of Dr. James A. Shannon, who has taken up new duties as associate director in charge of research, National Heart Institute

Dr. Rake has been with the Institute ever since its founding with the position of head of the division of microbiology. Educated in England, Dr. Rake came to this cuntry after serving at Guy's Hospital, London. He became assistant and instructor in pathlogy at Johns Hopkins, leaving to go to the Rockefeller Insititute in 1931. He was research associate at the Connaught Laboratories in Toronto before he joined Squibb in 1937.

Elected Pfizer Director

Chas. Pfizer & Company, Inc., has announced that John J. Powers Jr., secretary of the company has been elected to the board of directors.

Mr. Powers joined Pfizer in 1941 as head of the then newly formed legal department and has also served as assistant to the president.

Other directors of the company who were re-elected are: George A. Anderson, Chairman of the Board of Directors; John L. Smith, President; John E. McKeen, Executive Vice President; Fred J. Stock, V.P. in charge of Sales; John L. Davenport, V.P. in charge of Production; Albert A. Teeter, retired Vice President; Norman A. Grimm, manager of the Midwestern Sales Region; Maynard E. Simond, President of F. Eberstadt & Co. Inc.; and Robert P. Serles, Palmer & Serles, attorneys at Law.

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AND TENACIOUS—WILL BE EXTREMELY
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SOLE AGENTS IN UNITED STATES AND CANADA FOR
ROURE-BERTRAND FILS et JUSTIN DUPONT
GRASSE (A. M.) FRANCE ARGENTEUIL (S. & O.) FRANCE

Leberco Labs. Reorganized

Leberco Laboratories, 123 Hawthorne St., Roselle Park, N. J., has been reorganized and is now under the ownership and direction of Dr. Irving Levenstein and Arthur J. Cohane.

Miss McMahon Now License Officer for Drugs and Pharmaceuticals

T. W. Delahanty, chief consumers merchandise branch of the Office of International Trade has announced that Miss M. M. McMahon is the licensing-requirements officer for drugs and pharmaceuticals. The appointment results from the transfer of Leonard Weirich to the Office of Domestic Commerce.

For the past seven years, Miss McMahon has been engaged in the overseas promotion of health products by the Department of Commerce. She will continue this operation in conjunction with her licensing responsibility.

Dr. Stragnell Joins Organon

Dr. Gregory Stragnell has joined Organon Inc., (formerly Roche-Organon Inc.) as executive vice president and general manager at the new modern plant of Organon in Orange, N. J. Dr. Stragnell, who assumed his new duties early in April, was recently associated with Heyden Chemical Corporation and previously with Schering Corporation.

Schimmel Detroit Rep.

Ralph J. Elliot of Detroit has been appointed representative in that area for Schimmel & Company, Inc., New York.

To Cover Midwest for MM&R

Magnus, Mabee & Reynard, Inc., has appointed Henry Day as sales representative in the territory of Missouri, Nebraska, Kansas and Colorado. Previous to this assignment, Mr. Day was attached to the NewYork office.

Before joining MM&R, Mr. Day was with the Pan-American Shell Corporation in Mobile, Ala., where he was plant manager.

Williamson a Visitor Here

William B. Williamson, manager of Bristol-Myers Company Pty., Ltd., of Wellington, New Zealand, was a visitor in the country during the month of April. While here he inspected the various operations of Bristol-Myers and its subsidiaries along with those in Canada.

Mr. Williamson, a native of Edinburgh, Scotland, has been with the company since 1928. He was appointed manager at Wellington in that year.

Ives Heads Schering Management Research Dept.

Coleman S. Ives has been appointed head of Schering Corporation, management research department. He has been a member of the staff of that department since 1946.

After graduating from Yale University, and receiving his Master of Science degree from Columbia University, Mr. Ives spent five years in the Army where he rose from private to lieutenant, specializing in Signal Intelligence on Japanese communications.

Marlene's in New Quarters

Marlene's Inc., manufacturers of Minit Curl capsules has purchased a three story building at 349 W. Ontario Ave., Chicago. The buliding will house the stenographic, sales and advertising departments. Purchase price was $200,000 and it is estimated an additional $50,000 is to be spent on improvements.

Sterling Honors Hill for Service

Members of the operating committee of Sterling Drug Inc., presented a gold wrist watch to James Hill, Jr., president, upon his completion of 20 years service with the company.

After the presentation, Mr. Hill, accompanied by Earl I. McClintock, vice president, sailed on the Queen Elizabeth for a month's business trip in England.

Chalfant on South American Trip

John Chalfant, manager of the export department of the Package Machinery Company, is on a trip to South America, Cuba and the West Indies.

Schering Asst. Domestic Sales Mgr.

Francis C. Brown, president of Schering Corporation, has announced the appointment of Allan A. Miller to the position of assistant dosmestic sales manager. Mr. Miller has been supervisor of the Metropolitian (New York) division since 1946. After a number of years of retail practice and sales experience with other houses in the ethical pharmaceutical field, Mr. Miller, a graduate in pharmacy of the Columbia University College of Pharmacy, joined Schering as a representative in 1942. In May 1946, he was appointed Metropolitan division supervisor.

In his new position he will assist Herman W. Leitzow, domestic sales manager, and Dr. John N. McDonnell, Schering vice president in charge of domestic and foreign sales and promotion.

Clark on Tour of Europe

Roe Clark, chairman of the executive committee and treasurer of Package Machinery Company left May 14 for England, France, Switzerland and Italy to study manufacturing methods and procedure in the machinery-making field, and to evaluate the sales potentials of the European market. Mrs. Clark is accompanying him on the tour.

J. D. Dilworth

J. Dale Dilworth, died April 8, at his home in Salem, N. J. He was 79 years old.

Mr. Dilworth was president of the Salem Glass Works when it was merged several years ago with Anchor Cap and Closure and later with the Anchor Hocking Glass Corporation. Since that time he had been a director of Anchor Hocking.

Surviving are his wife, a son, John Reed Dilworth, and three daughters.

Joseph J. Hammer

Joseph J. Hammer, attorney for the New York State Pharmaceutical Association since 1929, and an expert on pharmaceutical law died April 1, of a heart attack in Orlando, Fla. He was 45 years old.

A graduate of Fordham University College of Pharmacy, he later studied law at Fordham Law School, and was admitted to practice in the state.

Joseph Plaut

Joseph Plaut, former president of Lehn & Fink died at his home in New York City. He would have been 90 years old on August 23.

Born in Eschwege, Germany, Mr. Plaut came to this country at the age of nine. He attended public schools and went to City College for one year.

He went to work for the Butterick Publishing company, transferring in 1886 to the drug firm, of which he and his brother Albert became partners in 1898. Albert later became president, and on his death in 1915 Joseph succeeded him, serving until 1925.

Surviving are his widow, a daughter and five grandchildren.

"PACKAGE"
WRAPPING MACHINES

"PACKAGE" machines are the fastest machines of their kind. They pare production costs by saving time, labor, and floor space. And the uniformly attractive wraps they turn out have been helping to keep some of industry's biggest names in the sales spotlight for years.

Over 80 Standard Models

There's a "PACKAGE" machine to meet the wrapping needs of virtually every manufacturer.

Most models are quickly adjustable for numerous package sizes, and are adaptable to practically any plain or printed wrapping material. The majority require but one operator. And all operate smoothly with a minimum of maintenance.

We'll be glad to send you a copy of "Packages that Sell"—an illustrated leaflet showing many different types of packages and describing our machines in greater detail. Write for it today.

America's leading manufacturers consistently choose "PACKAGE" machines

PACKAGE
MACHINERY COMPANY
SPRINGFIELD 7, MASSACHUSETTS
NEW YORK · CHICAGO · BOSTON · CLEVELAND
ATLANTA · DENVER · LOS ANGELES · SAN FRANCISCO
SEATTLE · TORONTO · MEXICO, D.F.

Production Forum

By FRANCIS CHILSON
Industrial Consultant

Management Trusteeship

I look upon top management as a kind of trusteeship in the interests of the public, of employees and stockholders. Time was in this country, when the interests of the public were unimportant except as consumers of goods, good, bad and indifferent. "The public be damned!" was almost the universal attitude. It was perfectly moral to sell diseased meat as top quality and fluid extract of senega as a cure for consumption. By compulsion we became moral and I think that today, the heads of most business concerns, in spite of a few backsliders, are genuinely interested in selling products that are what their labels represent them to be.

Employees were, until very recently, regarded as commodities to be used when needed and tossed aside with the utmost indifference when they were not. Again under compulsion we were made to realize that our employees have some natural right, that the public and our employees are one and the same group of people—they are *our* customers. It is hard for the man of average mind to understand that his own employees are also his customers especially when the products being made are in the nature of basic materials and not finished consumer items. But employees are customers just the same.

Time was when top management was more fearsome of directors and stockholders than it is now, and, when in the course of a year, it became apparent a bad guess had been made and that affairs were not going so well management would begin swinging the axe ruthlessly upon everybody except its own group. Top management seldom cuts its own take until there is no alternative.

The last time I was a plant manager, the president once ordered me to lay off "a dozen girls." I told him that if the five of us who comprised top management were to take a ten per cent cut, the company would save more money than it would by letting the girls go. I damned near got fired myself. The president had never heard such a radical proposal! I have heard of a few cases recently, however, where top management voluntarily reduced its own salaries as an alternative to a layoff. That's a good sign. After all if top management makes a bad guess in forecasting the year's performance, it has only itself to blame and it should be first to suffer the penalty instead of the rank and file.

Management's responsibility to stockholders is exaggerated still. Stockholders are entitled to a reasonable return on investments and a reasonable degree of capital security. They are entitled to an assurance that top management is protecting their interests, but their interests are no longer paramount. Excepting in closely held corporations, where the stockholders are also the active management, the only contribution made by stockholders is money.

Many changes are taking place in American management. As corporations grow larger and more able to dominate, if not actually to monopolize, specific segments of industry, opportunity for the small enterpriser or entrepreneur is becoming more and more restricted. At the same time top management is gradually and unconsciously developing its own aristocracy. It is not so long ago—and it is still pretty much the rule in the drug and cosmetic industry—that one could expect the president of a corporation to be a major stockholder in it, if not actually the controlling investor. It is very common now to meet company presidents who do not own a single share of stock in the enterprise they are directing. Among many if not most of the big corporations listed on the stock exchange, management control is exercised by a few men, owning very limited amounts of stock.

Management, having the power, seeks to perpetuate itself by bringing into the organization persons who will always be in sympathy with it. That's how relatives, fraternity brothers and personal friends come in. In privately or closely held corporations relatives are brought in and are accepted simply because the pro-

This Lukenweld Steel Drier Roll was put to work early in 1934 on a paper machine at Downingtown Paper Company, in Downingtown Pennsylvania.

This Lukenweld Steel Drier Roll has stayed *round* through 14 years of service

Recently removed for the repair of a worn journal caused by faulty lubrication, this 14-year-old roll gave Downingtown Paper Company's engineers an opportunity to check every detail. Their findings confirmed these facts, similarly proved by previous examinations of dozens of other Lukenweld Rolls:

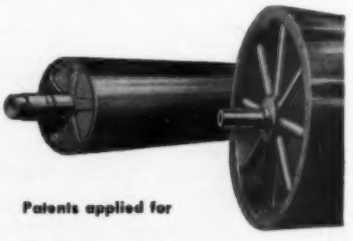
STABLE DIMENSIONS. Although in use on a paper machine ever since 1934, this 42″ Lukenweld Steel Drier Roll is still round to within a tolerance of 0.004″. (The machining tolerance was ±.005″.) The tolerance has scarcely changed in over 14 years

LONG-LIVED. On the interior surfaces of the chamber in which steam circulates, there were no evidences of corrosion.

STRONG AND SAFE. After the journal was repaired, this Lukenweld Roll was ready to go back to work, sound as the day it was installed 14 years ago.

Hundreds of Lukenweld Jacketed Steel Drier Rolls, at work in various industries, have proved they dry faster, better and safer. *Faster* because of reduced wall thickness and higher efficiency. *Better* because surface temperatures are even and constant. *Safer* because of their welded steel construction—steam pressures as high as 350 psi are permissible.

For Bulletin 358 giving data on drier rolls, or for help on complete machines, write Lukenweld, Division of Lukens Steel Company, 482 Lukens Building, Coatesville, Penna.



Patents applied for

We'll lend you "LUKENWELD", a 16mm motion picture with sound, highlighting our methods, facilities and products. Running time: 20 minutes. Write for booking date.

LUKENS
LUKENWELD DIVISION

DESIGNERS, ENGINEERS AND MANUFACTURERS OF MACHINERY

cedure seems natural and inevitable. But in public corporations the practice is sheer nepotism. Right now there's nothing to be done about it. But I think the time will come, however, when top management will legally be regarded as a trusteeship and a code will be drawn defining its scope and responsibilities. The time may come too, and I hope it will, when the people in an organization will have the right to vote for the man who is to direct them just as the stockholders through their directors do now. Then will we have the beginning of economic democracy.

The Build Up

To keep costs down in all departments you have to keep an eye on the "build up." Know what that is? That is the very common practice by which a department head tries to magnify the importance of his own job by building up the size of his department, even if he has to invent new jobs in order to do it. It is surprising how often they get away with it especially in laboratories, offices and sales departments. Very often the director of an inflated department is regarded by the management as being more important, simply because he supervises more people, then the cost conscious supervisor who works his tail off to keep his departmental payroll at a minimum. In some organizations the number of people in a department is used as one of the criteria in determining the salary scale of the supervisor! In many places I have found incompetent department heads receiving more pay than better men, simply because they knew how to manufacture useless work and make it look plausible. When the plant management is alert and is technically informed, it is not easy for a factory foreman to pad his staff and get away with it. But even in efficiently operated plants the practice can be found in some degree.

The practice is very rife in research laboratories simply because management as a rule graduates from the sales department and is not technically trained, so that when a chemist tells management, he must have two or three more people to run all manner of complicated technical processes, management usually gives in simply because it has no means of judging whether or not the processes are necessary. I have repeatedly said that a broadly trained and widely experienced chemist could build a nice consulting practice surveying laboratory operations, methods and procedures.

Building up the payroll is very common in offices especially when new records and procedures can be established without the approval of a canny and hard-boiled comptroller. In many, if not most offices, an immense number of useless records are kept and sometimes duplicated; often, indeed, triplicated in the same organization.

The Overhead Department

The late beloved Turner Currens used to call all offices the "overhead department." He regarded offices as mill stones around the neck of the sales department and he considered all departments of any business as money wasters excepting the sales department and the production department. His attitude was a little extreme of course, but it is true in industry that the important thing is you have to make the stuff and you have to sell it. Every other business function is subsidiary and should be conducted as effectively and economically as possible.

I have been in plants where the ratio of office personnel to production and sales personnel was four to one. Four office workers to every production man or sales man! How fantastic! In some plants the ratio is reversed—one office person to four production and sales people.

I'd like to make a survey and publish the results anonimously of course. I'd like you to cooperate. When the data is published you'll have a good checklist. If you wish to keep your participation secret, send me the data on a blank sheet of paper. Here are the questions I'd like you to answer so that the responses can properly be classified.

What is the total number of products you make without counting different sizes, colors or counts?

What is the total number of products you make counting sizes, colors, counts etc. as separate items?

Is your business drug, cosmetic or chemical?
If drug is it chemical or proprietary?

What is your total personnel counting the president?

How many are engaged is sales work including detail men and sales officials but not sales office clerks?

How many are engaged in office work including officers and officials—but not sales or production officials?

How many are engaged in production, warehousing and shipping including the plant manager?

How many people are engaged in control work? Research?

How many people are engaged in sales promotion and advertising?

In your responses, put all clerks in the office category, classify them if you will, even though the clerks may be physically located in and doing work for particular departments. Many firms do not have consolidated offices, hence, billing may actually be done in the shipping office in whole or in part; the entire production and inventory control department may, in some cases, be located in the factory. Where you can get the data include the people in branch offices. If your organization is badly broken up and people work in more than one division, list your personnel in total and state the number in each classification without regard to the divisions they are employed in. Thus, secretaries, clerks, salesmen, demonstrators etc.

Please send me your responses early so that I can tabulate the results and publish a report within the next sixty days.

New Carton Process

Folding cartons for the packaging field are now printed by a process which up to the present has been limited exclusively to fine art types of reproductions. Sheet-fed gravure printing on paperboard is being produced for the first time in this country by Robert

Gair Company, Inc., New York, manufacturers of folding cartons and containers.

Gravure presses, heretofore adapted only for printing on paper, have been installed at Gair's Piermont, N. Y. plant. These were built to Gair's specifications to produce the highest quality of paperboard printing.

For the first time, absolute fidelity of reproduction on boxboard is assured. Sheet-fed gravure printing gives unusually faithful color reproductions of subjects drawn, or depicted by photography. It possesses a brilliance, depth and range of color values not obtainable by other methods.

Norman F. Greenway, vice president of Robert Gair Company, states that application of gravure to folding cartons is expected to revolutionize their graphic designing. With gravure, unlimited types of art can be used on cartons. Manufacturers, in planning a carton to be printed by gravure, can draw upon the widest range of art and photographic techniques to achieve a dramatic package.

Gair is the first folding carton manufacturer to print cartons by this modern process, which assures their customers the finest paperboard printing available in the world.

The following information is supplied by manufacturers of the equipment described and claims made below by these manufacturers are passed along for what they are worth. Presentation of such notice in this department is not to be taken as endorsement of the claims or of the equipment.

Drum Rotator

The problem of low-cost, thorough and safe mixing and agitating of liquids, powders and various compounds in from one gallon round cans up to 55 gallon drums is solved with the introduction of a new, compact, portable, motorized drum cradle truck by the Morse Manufacturing Company, Inc., Syracuse, N. Y. under the registered trade name of The Rotator.

A ½ H. P. enclosed type motor, mounted in balanced position under the truck frame, is an integral part of The Rotator, and furnishes adequate power to the drive mechanism through a small, ingenious, floating type gear box to smoothly, efficiently and safely rotate a full drum load up to 500 lbs. at speeds of 40, 20, or 10 R. P. M. One man can safely and easily load and unload a 500 lb. drum weight with the aid of the Morse Tipping Lever which comes as a part of the complete equipment.

The sturdy truck frame is built like a modern bridge and is electrically welded. Swivel casters at front end are easily retracted by means of a foot lever located at rear end of truck to prevent slippage of truck in loading, and they make steering easy in moving a capacity load of 500 lbs. from one location to another. Fast, complete drainage of drum contents can be made underneath or at rear end of The Rotator.

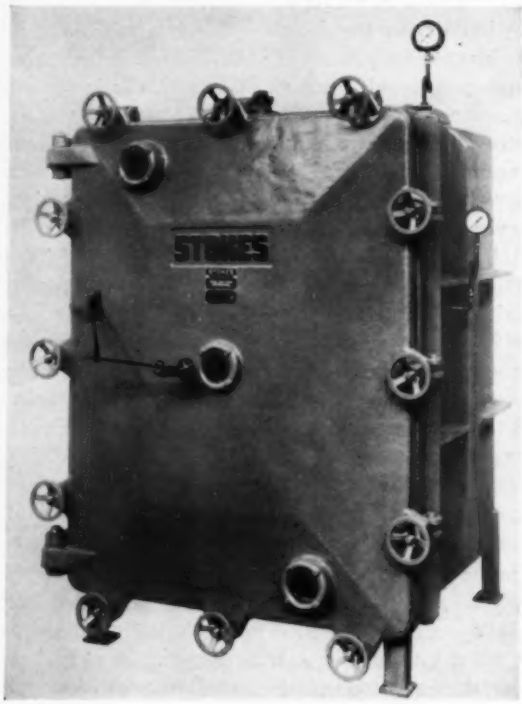
In designing The Rotator, all possible safety factors in the operation, and in the loading and unloading of the truck were incorporated. One of the many safety precautions is the safety catch on the angle nosepiece which catches under the drum to be loaded, and holds it steady and secure while the truck is being rolled over to operating position.

The new truck is moderately priced. Illustrated literature is available. Write Morse Mfg. Co., 122 Dickerson, Syracuse, N. Y.

Stokes Improved Vacuum Shelf Dryers

Construction changes in Stokes Vacuum Shelf Dryers for efficient, high speed, low cost drying at absolute pressures in the low micron range, are announced by the F. J. Stokes Machine Company, Philadelphia, Pa.

Built of welded steel, rigid tests assure vacuum tightness under extremely low absolute pressure drying



procedures. Dryer shelves, with internal baffles, are arranged to provide uniform heat throughout the entire shelf area. The jacketed construction of the top surface of the shelf dryer prevents condensation of the vapors passing toward the vacuum connection. The lower section of the vacuum shelf dryer is fitted with a drain gutter and outlet to permit cleaning of the unit without spillage.

A swivel spotlight, attached to the vacuum shelf dryer door, permits close observation of the material during the drying process. This spotlight can be quickly and easily moved to any one of the large diameter clear glass ports in the door.

Convenient swinging eyebolt clamps and handwheels provide easy sealing of the chamber. Specially shaped extruded baskets fitted in machined grooves in the dryer doors assure a positive seal.

Stokes Vacuum Shelf Dryers are available in five chamber sizes, with shelf spacing to suit specific requirements. Where necessary, special metals can be furnished, together with metal sprayed interiors. Steam, hot water, or oil can be used for varying drying temperature requirements.

Additional data and specifications covering the complete Stokes Vacuum Shelf Dryers will be sent without obligation by writing the F. J. Stokes Machine Company, 5932 Tabor Road, Philadelphia 20, Pa.

Ampoule Powder Filler

A Powder Filling Machine that speeds up the precision filling of ampoules and small bottles by as much as 10 times has just been developed by the Simmons Machine Tool Corporation, Albany, New York.

The new machine, designed for manufacturing chemists, accurately measures chemical, pharmaceutical, or other powders in any quantity from .01 cc to

over 7 cc, then automatically dispenses this amount into containers at strokes from 11 to 22 per minute. By contrast, output using precision weighing methods is approximately 2 per minute.

In actual operation normal procedure is to establish the correct volume in cc for the required weight in grams. It is then possible by micrometer screw adjustment to obtain exactly the desired volume at each stroke. For the standard maximum quantity of 7 cc a ¾" diameter plunger is used with a 1" stroke. For the smallest quantity of .01 cc a ¼" plunger is used with a stroke of less than 1/32". Greater or smaller ranges of strokes per minute can be provided by changes in the drive pulley ratio of the machine.

Screw Capping Machine

This single head fully automatic straightaway screw capper has been improved with a new type of automatic hopper and chute assembly for selecting and delivering the screw caps to the containers. The new hopper delivers the caps at a far greater speed than normally required thus always assuring an adequate supply of caps in the chute.

Plastic and metal caps of all shapes and sizes up to 70 mm. can be easily handled. Plastic caps, normally somewhat fragile, are delivered without breakage. A new type of chuck handles the plastic caps without damaging or even marring them. Small plastic caps for sprinkler top bottles are handled with ease.

An improved, adjustable tension device prevents breakage of plastic caps and yet provides positive tightening to any required degree.

Bottle holders and timers have recently been redesigned and simplified so that change-overs from one size or shape of container to another can be made with minimum loss of time. Practically any size or shape of bottle or can, jug or jar is easily and quickly handled by inexperienced operators. Made by Tite-Cap Machine Co. Inc. 1 Franklin Sq., New York 7.

Eppenbach Auger Mill

The Eppenbach Auger Mill is a specially designed Colloid Mill, combined with a variable speed worm feed and special cutting mechanism.

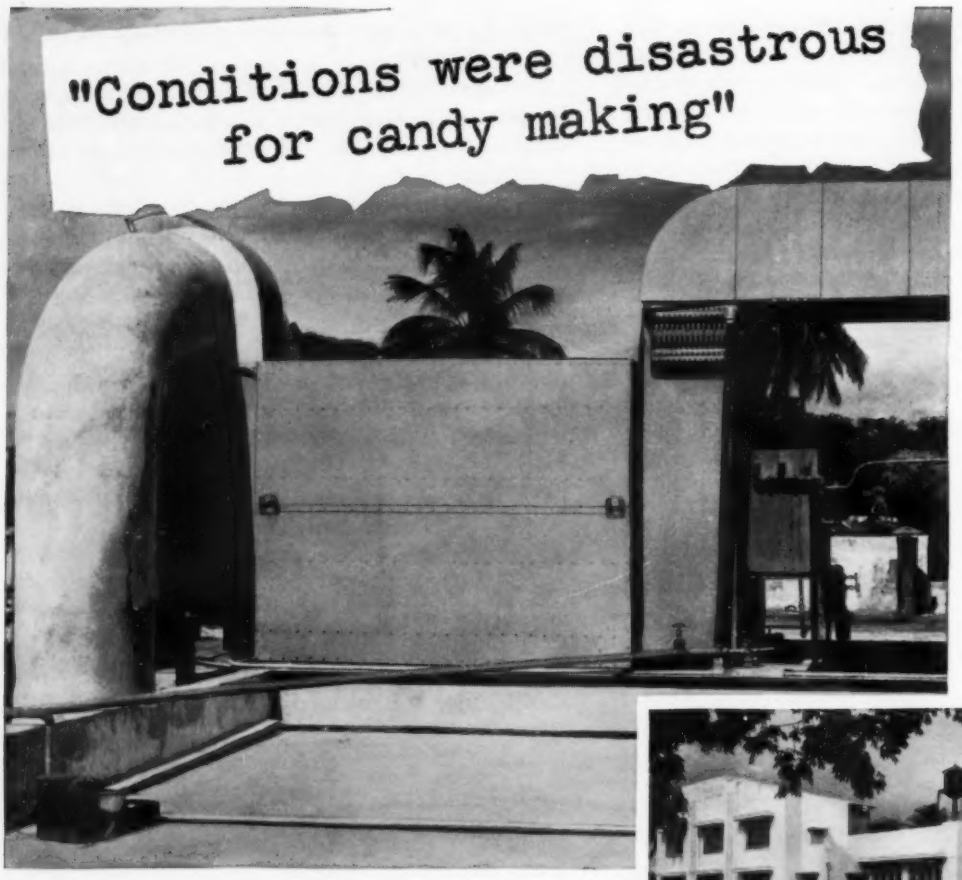
The Auger Mill has been designed for those industries where continuously high rates of production are required in the grinding of compounds or materials to extremely fine and uniform particle size.

Chemicals, paint pastes, cosmetics, pharmaceuticals and food products can be advantageously processed and ground to finer particle size or to a more perfect dispersion at higher rates of production than with other types of equipment.

The worm feed mechanism of the Auger Mill is made from either tin plated bronze or stainless steel. The worm incorporates a double threaded screw with a gradually diminishing lead which serves to enormously increase the pressure exerted on the material as it advances through the housing. The speed of the worm can be varied through wide limits to suit individual requirements. In practice the worm feed speeds may range from approximately 10 R.P.M. to 150 R.P.M.; but the speed ratios for any given set of conditions will vary between 3 to 1, 6 to 1, 8 to 1, or 15 to 1, depending upon the variable speed motor specified or selected to drive the worm feed.

The worm feed housing is designed for easy disassembly by simply loosening the six wing nuts located on each side of the housing and the four cap screws located at each end. The process of disassembly and assembly has been carefully worked out because cleaning the machine is of vital importance, particularly where food products are being processed. The hopper secured to the worm feed housing is of 20 gallon capacity, and is of highly polished stainless steel. Larger or smaller hoppers may be furnished upon request.

As the material emerges from the worm feed, it encounters a pair of sharp edged blades of stellite set at an approximate angle of 45°. These blades, rotating at 3500 R.P.M., thoroughly macerate the material



This Lectrodryer, mounted on the roof of Ponce Candy Industries' plant at Ponce, Puerto Rico, maintains a relative humidity of 55% in the department where "Fiesta" candies are wrapped.

Lectrodryer solved that problem and helped step up production 10%

Mr. Rafel Pou, Plant Manager, reports: "We ran into lots of trouble before we had the Lectrodryer installed. Now we are maintaining a temperature of 75° and a relative humidity of 55% with one CHT Lectrodryer and a 30 HP Chrysler Airtemp unit. During the winter, when the temperature drops, we save a lot of electric current by using the Lectrodryer alone."

"... production has stepped up at least 10%, because our automatic wrapping machines now operate at top efficiency."

You don't have to work in the tropics to have trouble with high humidities. Lectrodryers are providing "winter weather the year around" in such cities as Spokane, Minneapolis, Chicago, Cleveland, Buffalo, Philadelphia, and on around the world. Production has been standardized, quality of products improved, by making plants independent of outside weather conditions.

Whether the moisture that's giving you trouble is in the air, in a gas or organic liquid, there's a Lectrodryer to remove it. Tell your DRYing problem to Pittsburgh Lectrodryer Corp., 309 32nd Street, Pittsburgh 30, Penna.

In England: Birlec, Limited, Tyburn Road, Erdington, Birmingham.
In Australia: Birlec, Limited, 51 Parramatta Road, Glebe, Sidney.

LECTRODRYERS DRY WITH ACTIVATED ALUMINAS

LECTRODRYER

REGISTERED TRADEMARK U.S. PAT. OFF.

and exert additional pressure as it enters the grinding surfaces of the mill, which have a peripheral velocity of approximately 80 feet per second. The grinding surfaces of the stator and rotor are serrated at their small diameter ends with teeth that further serve to reduce the particle size of the material, and because of the angle of the teeth on the surface of the rotor and the stator, additional pressure is set up on the matrial as it passes on to the smooth surfaced section of the rotor and stator. This is where the final grinding action takes place. The impact upon the material from the tremendous surface velocity is so great that solids are broken down and shattered to microscopic particle size.

The rotor and stator are made of stainless steel and are fusion welded on their wearing surfaces with stellite. The gap between the rotor and stator is adjustable from the outside by the large scale micrometer adjustment screw, which has been a feature of Eppenbach Colloid Mills for thirty years. The rotor drive shaft is of *Invar*, which assures accurate gap clearances, irrespective of temperatures of machine or material. All rotating shafts are carried in precision ball bearings. Ample water cooling passages are provided around the stator housing and the construction is such that the water cooling is in direct contact with the grinding surfaces of the stator. Made by Eppenbach, Inc., 45-10 Vernon Boulevard, Long Island City 1, N. Y.

New Cellophane Wrapping Machine

The Package Machinery Company's new Model F moderately-priced cellophane wrapping machine is extremely versatile and can wrap products in cartons and goods in open trays or on flat cards. Only one operator is required to feed the machine and remove the wrapped product. Adjustments for a different size can be quickly made by hand-wheels, and since the machine features a self-measuring paper feed, products varying greatly in height can be wrapped in continuous stream. The Model F has an operating speed of up to 40 packages per minute, depending on the type of package or product wrapped.

Pressure Sterilizing Filter

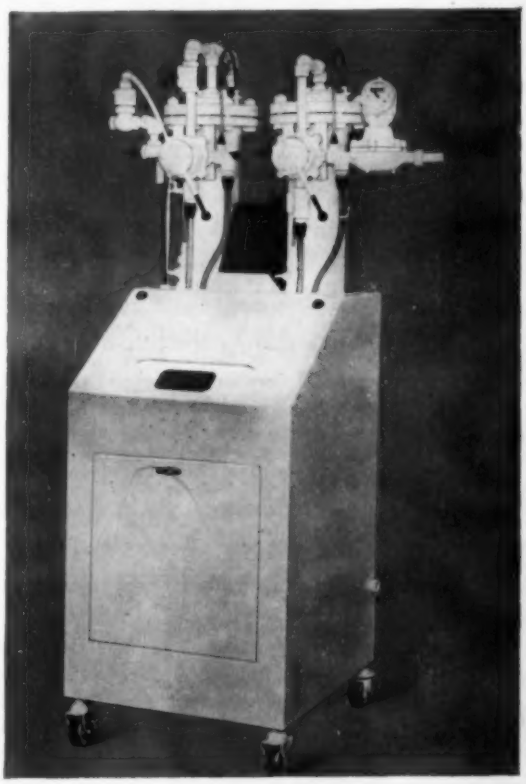
F. R. Hormann and Co., 186 Joralemon St., Brooklyn, N. Y. announces the introduction of a new series of pressure sterilizing filters known as Sanitype Filters. These filters are offered as new and distinctly improved units for the clarification, polishing and sterilization of all types of pharmaceutical solutions and medicinal preparations including serums, plasma, vaccines, antibiotics, vitamin, saline and glucose solutions.

A few of the advantages of Sanitype Filters include: the elimination of porous, pitted, rough surfaces stainless steel castings; all internal surfaces of plates and frames coming in contact with the liquid are smooth and highly polished; all external surfaces of the unit are highly polished; the elimination of unnecessary threads, welds, cracks or joints which facilitates cleaning the unit and eliminates contamination of the filtrate; flexibility for double or triple filtration within the same unit by the addition of one or two bypass plates, thus permitting clarification and sterilization in a single operation.

Ion Exchanger

Belco Industrial Equipment Division, Inc., 102 Iowa Avenue, Paterson 3, New Jersey announces the development of a new Package Demineralizing Unit to be known as Model "200."

Portable laboratory Ion exchange units for producing a quality of water, equal to distilled in total solids, are gradually replacing the more costly and bulky steam distillation units.



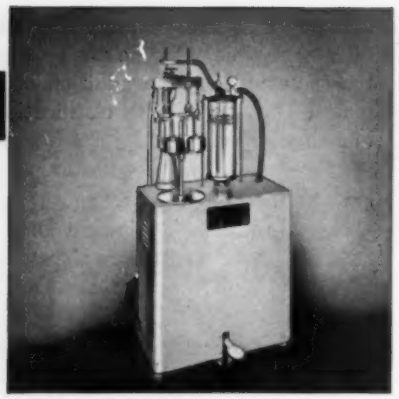
A survey among users of such equipment revealed that there was a need for units with higher flow rates and with provisions for Memi-automatic regeneration.

The Model "200" Belco Package Demineralizing Unit meets the requirements for higher flow rates in a small package unit having a maximum flow rate of 60 gallons per hour and an exchange capacity of 14,000 grains as $CaCO_3$. It is a completely self contained unit having the regenerant containers concealed in the cabinet. The tanks are rubber lined and piped with Saran piping and tubing; operating valves are Everdur.

It is completely assembled and loaded, ready to be connected to the raw water line. Electronic controls assure automatic shut-off when a predetermined degree of impurity in the demineralized water is reached.

COMPANION SEMI-AUTOMATIC MACHINES

Clean and Fill 50 to 75 Gross of Containers Per 8 Hour Day



THE U. S. SEMI-AUTOMATIC MODEL B-2 VACUUM FILLER

The most comprehensive filler for hand-fed operation. Interchangeable filling stems for any liquid or semi-liquid. Interchangeable parts for various size containers. Fills from any size storage container. Portable, motor equipped with cord and plug.

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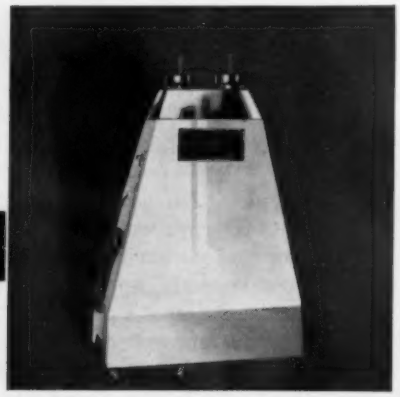

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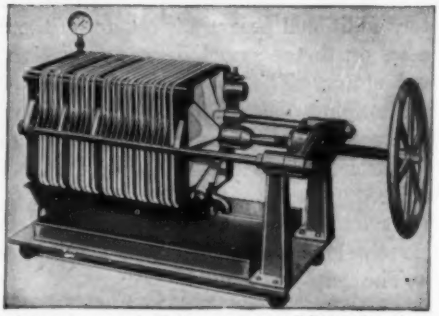

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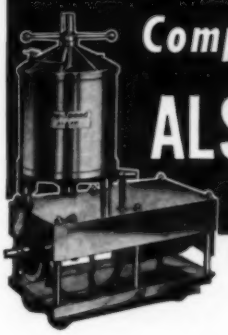

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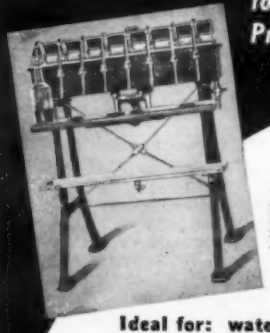

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Patent Thoughts and Trends

By THOMAS CIFELLI, Jr., Patent Attorney

AMONG the many patents recently issued in the drug and cosmetic field four have been selected for detailed consideration here. These patents deal with cream hair treating preparations, a cosmetic cake product and a therapeutic agent. As the readers of this department are already aware, the basis for selection of patents for discussion is not necessarily the importance of the patents concerned but whether the patents would be of general interest to the readers of this department. It often happens that significant patents also fit the bill by being of general interest, but this is not always the case. Moreover, the experience of the writer has been that no one can foretell with any degree of accuracy whether a patent is going to prove to be particularly valuable. Only time can give the answer to that question.

Cream Hair Treating Preparations

According to two patents (U. S. 2,464,280 and 2,464,281) assigned to Raymond Laboratories, Inc., stable cream hair waving compositions can be obtained by using as creaming agents sulfated aromatic ether alcohols in the form of an aryloxy polyalkylene ether sulfonate (U. S. 2,464,280) and a water-insoluble polymeric acrylic acid derivative, including co-polymers (U. S. 2,464,281).

The claims are rather broad. For example, claim 1 of U. S. 2,464,280 covers cream hair treating compositions comprising a keratin reducing agent dissolved in an aqueous medium containing an aryloxy polyalkylene ether sulfonate, the composition being opaque and milky in appearance and having a higher viscosity than that of an aqueous solution of the reducing agent of the same concentration containing none of the sulfonate.

Claim 1 of U. S. 2,464,281 is similar and covers compositions in which the keratin reducing agent is dissolved in an aqueous medium containing a water-insoluble polymeric acrylic acid derivative dispersed in the composition by a dispersing agent for said acrylic acid derivative, the dispersing agent being present in amounts sufficient to maintain the composition uniformly opaque and milky in appearance.

In the picture also is a prior patent U. S. 2,405,166, issued to the inventors of U. S. 2,464,280.

According to the patents, before the era of cold waving, solutions for use in hot waving processes were sometimes creamed by the addition thereto of sulfonated oils. In an effort to secure suitable solutions, oils of varying degree of sulfonation were utilized. To attain complete opacity and a high degree of milkiness, oils of low degree of sulfonation or solubility were necessary. Such oils, however, were found to be unstable in the hair treating solutions; with time the emulsion would crack and often-times unsightly precipitates would be formed. This kind of separation was responsible for many permanent waving failures due to lessened or non-uniform strength of the applied solution. Furthermore, such oils were objectionable in odor and exerted an inhibiting effect on the chemical activity of the solution requiring unduly high concentration of the active waving ingredient. It was necessary therefore, if satisfactorily opacifying oils were used, to bottle them separately from the treating solutions to be mixed just prior to use. Even then the wetting properties of the solution were not fully satisfactory and the oils were difficult to rinse from the hair.

Serious consequences of this sort arising from the use of oils of low degree of solubility forced compromises in the direction of oils of higher degrees of sulfonation. Immediately the degree of sulfonation was increased sufficient to give stability and acceptable wave strength, however, unacceptable reduction in viscosity and opacity was encountered.

With the advent of cold waving solutions containing more chemically active keratin reducing agents, such as thioglycolic acid, instability of a mixture of sulfonated oil with the treating solution became acute. The oils cracked out badly, even overnight in the case of some solutions, and redispersion was exceedingly difficult, if not impossible, so that even in small concentrations the waving efficiency of the solution was profoundly affected.

The patentees claim that the hair treating compositions creamed by the above named creaming agents exhibit greatly improved stability so that they can be stored without separation of the ingredients and without serious decomposition or failure of the chemical efficiency of the solution. The manufacturer may bottle the cream solution itself with assurance that the homogeneity and stability of the solution, even after prolonged storage, will be such as to provide suitably uniform application to the hair, even when the bottle is not shaken prior to use, and satisfactory waving results.

The solutions are said to be completely opaque and milky and to have suitable increased viscosity over that of the uncreamed solution. As a result dripping is reduced and the amount of solution held by the hair is increased. Also, the solutions exhibit good wetting properties, which together with the other named characteristics are valuable properties from the standpoint of the effectiveness and ease of application. The hair is said to receive the solution very rapidly and the distribution of the solution through the tress is said to be simplified.

A typical solution is one having the following formula:

	Fluid ounces
Thioglycolic acid	0.9
Ammonium hydroxide	1.66
Water	13.44
To which is added a sulfonated ether compound—(Triton 720 Rohm & Haas)	3.0

The concentration of the reducing agent, thioglycolic acid, in the solution may be varied in accordance with the particular waving results desired. Likewise the ammonium hydroxide content may be varied according to the pH value desired. In general pH value of the reducing solution should be

above 7 and below 12, with the idea range lying between 9 and 10.

As is known the art in this field is somewhat extensive and the following references were cited in connection with one or both of these cases:

U. S. 2,086,479 Schranth	July 6, 1937
U. S. 2,115,192 Bruson	Apr. 26, 1938
U. S. 2,261,094 Speakman	Oct. 28, 1941
U. S. 2,305,356 Luckenbach	Dec. 15, 1942
U. S. 2,309,722 Wilkes	Feb. 2, 1943
U. S. 2,352,524 Evans	June 27, 1944

Australian Patent No. 117,071 June 17, 1943.

Conn. Agr. Experiment Station, *46th Report on Food Products and 34th Report on Drug Products, 1941*—Bulletin 460, May 1942, pages 448-450.

Powers: *Bulletin of the National Formulary Committee*, Vol. X, No. 8-9, Aug.-Sept., 1942, pages 173-175, 215.

Bennett: *Cosmetic Formulary*, Chemical Publishing Co. of New York, 1937, page 141.

Cosmetic Cake

Helena Rubinstein, Inc. of New York just obtained by assignment U. S. Patent 2,465,340 on a cosmetic make-up cake which can be emulsified with water prior to applying it on the skin. The advantages of the cake are said to be that it does not render the skin uncomfortably dry or give rise to the formation of pimples within the depth of the skin.

The Rubinstein patent, based on an invention by Herman Sharlit, involves the incorporation into the make-up material of dehydrated skim milk as the binder.

It appears that cosmetic make-up cakes have been made by preparing an aqueous emulsion containing water-in soluble inert ingredients such as talc, clay, kaolin, titanium dioxide, zinc stearate and the like, some pigments, an oil material compatible with human skin, such as mineral oil, petrolatum, lanolin, spermaceti or mixtures thereof, and a water soluble binder, such as soap or soap equivalents, evaporating the water, and compressing the remaining material into cake form. The binder serves to supply a homogeneous covering to the skin by keeping the texture ingredients and the pigments bound within the film formed on the skin.

Objections to the known cosmetic make-up cakes were their tendency to render the skin uncomfortably dry and the formation of pimples.

According to the patent it has been found that best results are obtained with mixtur s containing about 88 to 100 parts by weight of pulverulent water-insoluble texture ingredients and pigments, about 10 to 11 parts by weight of an oily substance selected from the group consisting of mineral oil, petrolatum, lanolin, spermaceti and mixtures thereof, and about 5 to 15 parts by weight of dehydrated skim milk as a binder.

Example 1 of the patent follows:

"70 lbs. talc were mixed with 15 lbs. titanium dioxide, about 3 lbs. pigments, about 15 lbs. dehydrated skim milk, and about 0.25 lb. sodium lauryl sulfate.

"The mixture was passed through a micro-pulverizer to obtain complete intermingling of the finely distributed ingredients.

"Then the powdery mass was placed in a suitable mixer and 5 lbs. mineral oil, 5 lbs. yellow petrolatum and 10 lbs. glycerol were added.

"The combined materials were again passed through the micro-pulverizer and the material was then compressed into cake form and ready for use."

An idea of the amount of protection obtained is given by claim 1 of the patent which follows:

"A substantially dry solid cosmetic make-up cake emulsifiable with water by rubbing the surface of the cake with a moistened applicator, said cake consisting of a compressed body containing an intimate mixture of about 88 to 100 parts by weight of water-insoluble pulverulent inert texture ingredients including about 3 to 5 parts by weight of pigments with about 10 to 11 parts by weight of an oily material compatible with human skin, and about 5 to 15 parts by weight of dehydrated skim milk as a binder."

Recent Patents

***U. S. 2,460,591*—T. E. Luzar—Dental Floss Tooth cleaning apparatus.**

***U. S. 2,460,641*—J. J. Kleiner—Blood Collecting Apparatus.**

***U. S. 2,460,747*—Parke, Davis—5-Alkoxy-Alkyl- -Cyclohexyl Hydantoins.**

***U. S. 2,460,796*—Procter & Gamble—Carotenoid Concentrates from Palm Oil.**

***U. S 2,460,941*—R. H. Marriott et al—Stilboestrol with Camphor.**

***U. S. 2,461,038*—G. D. Searle & Co.—Tertiary-Aliphatic-aminoalkyl ether of a polynuclear carbinol of the 9-xanthenol, etc.**

***U. S. 2,461,119*—E. R. Squibb—Bisglycolic Acid Amides of 2,6-Diamino Pyridines.**

***U. S. 2,461,156*—Ciba—Imidazolines.**

***U. S. 2,461,278*—E. R. Squibb—Standardization of Therapeutic Curare Preparations.**

DEPILATORIES IN REVIEW

Part III

U.S. 2,352,524, issued June 27, 1944, for Depilatory, assigned to Sales Affiliates, Inc.

This patent may be said to mark the second milestone in the depilatory art. This is the so-called "Irma" patent and has been upheld in court, the decisions being reported at 72 U.S.P.Q. 211 and 75 U.S.P.Q. 259.

The composition described in the claims of the patent embraces two depilating agents; substituted mercaptans (thio-glycollic acid) and an alkaline reacting material such as lime; a non-reacting paste-forming ingredient and a perfume material. Substituted mercaptans, especially those having polar groups, are preferred depilating agents. The patentees state that in order to obtain a desirable depilating action the depilatory must conform to certain general formulation: (1) pH value should be between 9 and 12.5; (2) the concentration of the mercaptans should be between 0.1 and 1.5 mols per liter; (3) the alkaline ingredient must have an ionization constant greater than 2.0 times 10^{-5}; (4) in order to prevent skin injury it is desirable that the concentration of the alkaline material in solution be not greater than twice the equivalent concentration of the mercaptans; (5) the paste form is the most satisfactory; and (6) natural gums are used in order to give stable formulation.

Claims 6 and 17 which were broad enough to cover simple mercaptans were declared invalid by the lower court. Claim 2 is typical and is set out in full here:

A depilatory for use in removing human hair from the body, comprising a creamy preparation containing a substantial amount of a creamy non-depilating vehicle carrying thioglycollic acid, and an excess of an alkaline reacting material, said creamy preparation being adapted to be spread upon the human skin and around

(Continued on page 630)

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YOUR TRADE-MARK RECORD

By JOHN H. GRAHAM
International Patent and Trade-Mark Consultant

Laundry Starch Conflicts With Soap

Lever Brothers opposed Blue Magic's application for registration of the trade-mark "Easy Monday" for liquid starch for laundering purposes. Lever relied on the registered mark "Sunny Monday" for soap. It is of interest to note that no testimony as to the facts was taken by either party, which is usually a dangerous procedure. Lever relied solely upon ownership of the mark which was originally filed in 1906, renewed in 1926 and re-renewed in 1946. It was held that the goods directly were in conflict, so that the major question was the similarity of the two marks.

Applicant (Blue Magic) stated that "Monday" was so commonly associated with the family wash-day that it could not indicate origin in a Trade-mark sense, and "Sunny" and "Easy" differ so radically that there was no likelihood of confusion.

It was held, and affirmed by Daniels, Assistant Commissioner, that while "Monday" may have a certain suggestive connotation as applied to such type of goods, it is not merely descriptive of the goods, so that the two marks must be considered in their entire ies. Thus, their appearence and sound were held to be sufficiently similar to lead to possible public confusion.

Laundry Starch Does Not Conflict with Washing Machines or Ironers

The same applicant, Blue Magic, were also opposed on the same mark by Easy Washing Machine Corp., who had registered the trade-mark "Easy" for washing machines, ironers and the like. The goods, namely, laundering starch was held not to conflict with washing machines, etc. and the opposition was dismissed.

Hemostatic Agent Conflicts with Reagent for Testing Blood

In Ames Company Inc., against The Maltine Co., the mark "Hemoclot" of Maltine was considered confusingly similar to "Hemotest" a registered trade-mark owned by Ames, despite the argument that the portion of the mark "Hemo" is a form of the Greek for blood, and both marks broadly are concerned with human blood, and the remaining portions of the marks "Clot" and "Test" were totally different.

The Examiner of Interferences held that the two marks must be considered in their entireties and thus were conflicting.

Also, the fact that Maltine uses the mark "Hemoclot" on goods sold to physicians for use in treating their patients and the goods bearing the mark "Hemotest are used by technicians in laboratory analysis, did not remove the goods to a non-conflicting status, since it was held that both goods were used by the medical profession and there was not showing or evidence to prove that both might not be used by the Physician. Daniels, Assistant Commissioner affirmed the refusal to register "Hemoclot."

"Heavenly Night" and "Heaven Sent" Held to be Confusingly Similar

Assistant Commissioner Daniels, affirmed the Examiner's decision in refusing to register the words "Heavenly Night" as a trade-mark to Agazim (Floralatoms Co.) in view of the registration to Helena Rubenstein Inc., of the trade-mark "Heaven Sent," the goods being identical, namely perfumes. Rubenstein brought opposition and in so doing attached a copy of the registration, thus relying on its face value as evidence. No testimony was taken by either party and the presenting of the copy, with its showing of prior dates was considered to be *Prima Facie* evidence of ownership of the mark.

As to the actual marks, they were considered essentially arbitrary in character and so largely characterized by the initial word (Heaven) that the public might well be deceived as to origin if the marks were concurrently used of similar goods.

"Crillon" and "Carillon" Held to Conflict

Claude Caron doing business as Guermantes, appealed from a decision of the Examiner who had refused to register the word "Crillon" for perfumes, the uprights of the "L" being twice the normal height, in view of the prior registration for perfumes of the word "Carillon." Daniels, A. C. affirmed the Examiner's rejection, stating that they appeared to be virtually identical in both sound and appearance, although the meaning of the words were admittedly different. The minor design feature of the extended "L's" was held to be not sufficient of itself to distinguish between them and there is no assurance as to how the American buying public might pronounce them.

Marking as a Trade-Mark Before Registration Held to Prevent Such Registration

In Libby-Owens-Ford Glass Co. against Plastron Inc., on appeal to the Commissioner, a very important question was raised. L.O.F. filed opposition against Plastron's application for trade-mark "Plastron" based on their trade-mark "Plaskon."

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"Plastron" was for plastic film made of polyvinyl chloride, such as used for shower curtains, garment bags, curtains and etc., "Plaskon" was for basic plastic materials as used for molding, etc., The Examiner of Interference dismissed the opposition. L.O.F. filed appeal. Daniels, A.C. affirmed the findings as to opposition but refused the registration. The reason for refusal of the registration was that Plastron Inc. had advertised goods bearing the legend "Reg. U. S. Pat. Off" with respect to the mark "Plastron" and this was called to their attention in another proceeding in 1947 and was again brought up in the present case in 1949. In spite of this two year notice Plastron Inc. still continued this improper marking. Plastron's conduct in the case was held to indicate not only that it had no valid reason for using this legend, but that it has deliberately continued to use it and apparently has taken no steps to discontinue it. Such improper marking was held fraudulent and misrepresentation and in view thereof, the applicant is not entitled to the registration.

Thus, though the opposition against Plastron was dismissed, the mark was refused registration.

Appeal to Court from Commissioner's Decision Successful

Often the question is asked as to whether an appeal to a higher authority than the Commissioner of Patent's is worth while in a trade-mark opposition case. That it is sometimes successful is evidenced by the decision of the Court of Customs and Patent Appeals reversal of the Commissioner's stand in refusing to register the trade-mark "Brace" for a scalp and hair toilet preparation. It was basically held that this mark was not confusingly similar to the mark "Bracine," owned by the Leonard James Company for antiseptic liniment and veterinary preparations. While there are peculiar circumstances surrounding this case, they do not avoid the basic fact that the appeal was successful in reversing the Commissioner and allowing the trade-mark "Brace" to go to registration.

The following Trade-Marks were recently published in the official Gazette of the United States Patent Office and are complete to the end of March.

Activator—VI—H—547,250
Ephraim & Company, Newark, N. J.
Ser. Jan. 16, 1948 D. U. Dec. 15, 1947

Athene—VI—C—550,970
Turmac Specialties Co., Berkeley, Cal.
Ser. Mar. 1, 1948 D. U. Aug. 1, 1930

Bachelor's Bait—VI—B—493,392
A. Palazzolo, dba Andre-Lee, N. Y., N. Y.
Ser. Dec. 15, 1945 D. U. March 1944

Beauty in the Morning—VI—BCDH—553,791
Universal Labs., Inc. East Orange, N. J.
Ser. Apr. 3, 1948 D. U. Mar. 22, 1948

Beauty Secret—VI—C—516,918
The Proctor & Gamble Co., Cinn., Ohio
Ser. Feb. 4, 1947 D. U. Feb. 1, 1909

Bronze Baron—VI—BC—549,864
A. W. Curtis, Jr., dba A. W. Curtis Labs., Detroit, Mich.
Ser. Feb. 16, 1948 D. U. Jan. 23, 1948

Bronze Blush—VI—C—520,617
A. W. Curtis Jr., Detroit, Mich.
Ser. Apr. 14, 1947 D. U. Sept. 10, 1946

Canamin—VI—C—548,636
Canamin Corp., New York, N. Y.
Ser. Feb. 3, 1948 D. U. Nov. 6, 1947

Christmas Card—IV—A—559,892
Harriet Hubbard Ayer, Inc., N. Y., N. Y.
Ser. June 22, 1948 D. U. Feb. 25, 1948

Coda-Creme—VI—C—551,993
Model's Cosmetics, Inc., Chicago, Ill.
Ser. Mar. 15, 1948 D. U. Jan. 12, 1948

CSDM—VI—H—559,902
Compania Swift de Montevideo, S. A., Montevideo, Uruguay
Ser. June 22, 1948 D. U. Oct. 10, 1947

Dianthus—VI—C—530,210
Lucien LeLong Inc., Chicago, Ill.
Ser. Aug. 1, 1947 D. U. Mar. 24, 1939

D'Orsay—IV—A—550,586
D'Orsay Perfumeries Corp., N. Y., N. Y.
Ser. Feb. 26, 1948 D. U. Since 1915

Dr. Ellis—VI—HE—546,988
The F.E.I. Corp., Pittsburgh, Pa. and Dover, Del.
Ser. Jan. 14, 1948 D. U. Jan. 1, 1930

Dutrix—IV—A—522,931
Elizabeth W. Parker, Washington, D. C.
Ser. May 23, 1947 D. U. May 22, 1947

Excellency—VI—G—490,324
Helene Curtis Industries, Inc., Chicago, Ill.
Ser. Oct. 22, 1945 D. U. Sept. 29, 1945

Frances Denny—VI—BCDS—536,876
Frances Denny, Phila., Pa.
Ser. Oct. 6, 1947 D. U. Sept. 19, 1928

Gay Night—VI—B—509,155
M. C. Marra, dba Jean Charles, Jackson Heights, N. Y.
Ser. Sept. 16, 1946 D. U. April 1946

Genatosan—VI—BCD—546,387
Genatosan Ltd., Loughborough, England
Ser. Jan. 7, 1948 D. U. Mar. 3, 1938

Golden Earrings—VI—BCH—553,587
H. Flamhaft, dba Ibis Perfumer, N. Y., N. Y.
Ser. Apr. 1, 1948

Golden Note—IV—A—559,887
Harriet Hubbard Ayer, Inc., N. Y., N. Y.
Ser. June 22, 1948 D. U. Feb. 25, 1948

Grand Bouquet—VI—B—530,215
Lucien LeLong Inc., Chicago, Ill.
Ser. Aug. 1, 1947 D. U. Sept. 15, 1933

Hazeline—IV—A—559,579
Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N. Y.
Ser. June 18, 1948 D. U. Since 1907

Hum—IV—A—559,747
The Theobald Industries, Kearny, N. J.
Ser. June 19, 1948 D. U. Jan. 22, 1948

Kerodex—VI—C—557,470
Scientific Pharm., Ltd., London, England
Ser. May 20, 1948 D. U. Since 1945

Kis-Kee—VI—C—550,971
Turmac Specialties, Co., Berkeley, Cal.
Ser. Mar. 1, 1948 D. U. June 8, 1938

Kreme Komfort—VI—C—507,333
Beauty Masters of Beverly Hills, Inc., Milwaukee, Wis.
Ser. Nov. 26, 1948 D. U. May 22, 1946

Kylene—IV—A—559,756
Estelle Wyler, Inc., New York, N. Y.
Ser. June 19, 1948 D. U. Mar. 1, 1948

Lan-O-Set—VI—H—522,619
M. M. Franchina, dba Allied Beautilities Co., Cleveland, O.
Ser. May 19, 1947 D. U. July 10, 1945

Lan O Sheen—IV—A—460,550
Lan-o-Sheen Inc., St. Paul, Minn.
Ser. Nov. 26, 1947 D. U. Apr. 1, 1940

Lox—VI—H—508,576
Combs & Lambrecht, Kansas City, Mo.
Ser. Sept. 6, 1946 D. U. Aug. 28, 1946

M—VI—BC—548,320 (And Des.)
Benard & Honnorat, dba Molinard, Grasse, France
Ser. Jan. 30, 1948 D. U. Apr. 13, 1938

Madame Olga Patsky—VI—C—507,726
Olga Patsky, Phila., Pa.
Ser. July 31, 1945 D. U. Apr. 21, 1938

Mae Woods—VI—H—560,077
M. Woods, dba The May Woods Co., Omaha, Neb.
Ser. June 23, 1948 D. U. Apr. 10, 1948

Men-J—VI—CM—561,251
Menley & James, Ltd., N. Y., N. Y.
Ser. July 13, 1948

Mousseline—VI—B—547,760
Parfums Marcel Rochas, Paris, France
Ser. Jan. 22, 1948 D. U. Apr. 25, 1947

Naylon—VI—BCE—516,095
Schnefel Bros., Corp., Newark, N. J.
Ser. Jan. 21, 1947 D. U. Nov. 15, 1941

Newmarket—VI—B—555,333
J. S. St. B. Baker, London, England
Ser. Apr. 22, 1948 D. U. Feb. 6, 1948

Nicota—VI—T—511,381
The County Perfumery Co., Inc., Bloomfield, N. J.
Ser. Oct. 24, 1946 D. U. Aug. 20, 1946

Orchis Colgate—IV—A—552,122 (And Des.)
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Ser. Mar. 17, 1948 D. U. Dec. 1, 1934

Palmsweet—VI—D—549,695
Block Drug Co., Inc., Jersey City, N. J.
Ser. Feb. 14, 1948 D. U. Feb. 9, 1948

Park Avenue—VI—D—541,132
M. S. Goldberg, dba Central Chem. Co., Dallas, Tex.
Ser. Nov. 14, 1947 D. U. Jan. 5, 1946

"Penny Wise"—IV—M—558,786
Hans Jacob Heckmann, dba Hans J. Heckmann Co., Towson, Md.
Ser. June 9, 1948 D. U. Apr. 1, 1948

Perma Lip By Joanell—VI—C—553,965
J. Lamura, dba Joanell Cosmetic Co., Livingston, N. J.
Ser. Apr. 6, 1948 D. U. Jan. 15, 1948

Poudre D'Illusion—VI—C—545,937
Elizabeth Arden Sales Corp., N. Y., N. Y.
Ser. Jan. 2, 1948 D. U. Aug. 8, 1916

Quel—VI—M—525,980
Quel Products Inc., Cleveland, Ohio
Ser. July 3, 1947 D. U. Mar. 30, 1947

Rilling—VI—H—496,663
Rilling Co., Bridgeport, Conn.
Ser. Feb. 15, 1946 D. U. March 1938

Sand Paper—IV—A—559,897
Harriet Hubbard Ayer Inc., N. Y., N. Y.
Ser. June 22, 1948 D. U. Feb. 25, 1948

(To be continued)

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Compounder's Corner

Hot Oil as an Instrument Disinfectant

A number of authorities have stated that hot oil is superior to other means of disinfecting dental handpieces and delicate metallic instruments, in that it prolongs the efficiency of the instruments. However, differences of opinion exist regarding the time required and the temperature at which oil should be maintained for disinfection and sterilization of instruments. To settle these differences, H. T. Knighton (J. Am. Dent. Assoc. 38:309, 1949) made a study of the problem. Experiments were designed to test the bactericidal efficiency of hot liquid petrolatum (white mineral oil) and to compare its sporicidal efficiency with that of boiling water. Cross cut fissure burs, as used in right angle handpieces, were used as contaminated test objects.

From these studies it was concluded that white mineral oil at 148 to 154° C. for 5 to 10 minutes or at 121 to 125° C. for 10 to 15 minutes is a practical and efficient means of disinfecting previously cleansed dental handpieces and other instruments where bacterial spores are not considered a hazard. A temperature of 160°C. is necessary if white mineral oil is to be considered the equal of boiling water (100° C.) in destroying bacterial spores within 20 minutes. Although both white mineral oil at 160°C. and boiling water (100°C.) for 20 minutes will kill many spores, available evidence indicates that they are not as efficient as autoclaving (steam under pressure) or exposure to air at 160° C. for one or two hours.

Stable Vitamin C Solution

Ordinary solutions of vitamin C are known for their lack of stability. Of interest therefore is a stable, non-aqueous (but water soluble) vitamin C solution (Ascorbic Acid Solution) described in the January, 1949 issue of the *Greenwich (Conn.) Hospital Association Bulletin*. This consists of:

Ascorbic acid	**10.0 Gm.**
Propylene glycol, to make	**100.0 cc.**

This solution is used in the preparation of infant formula as well as for synthetic diets for adults.

Compounding with "Carbowaxes"

The polyethylene glycols, say C. P. McClelland and R. L. Bateman (J. A. Ph. A. Pract. Ed. 10:30, 1949) are finding many uses not only in pharmaceuticals, but in allied products as well. Each of these polyethylene glycols is a polymeric mixture. Those with average molecular weights ranging from 200 to 700 are liquids; while those with molecular weights of 1000 and above are waxlike, unctuous solids sold under the registered trade-mark "Carbowax." (Carbide and Carbon Chemicals Corp., New York City.) Individual members of the family of nine polyethylene glycols and Carbowax compounds may be blended to obtain mixtures with properties that are limited only by those of the lowest and the highest molecular weight components. An even wider range in some properties is obtainable by blending these polymers with water, alcohols, or other glycols. A homogeneous mixture of Carbowax compounds with many of the natural waxes, gums, and oils can be formed if these materials and Carbowax compound are heated together.

The development of the use of polymeric glycols in the pharmaceutical industry has largely been due to the combination of their unusual properties, particularly their water-solubility, low order of toxicity, and wide range of compatibilities. The polyethylene glycols may be used as components of water-soluble ointment bases which are stable at elevated temperatures for the treatment of fungus infections, as soluble dressings for open wounds, as carriers for penicillin, sulfa drugs, and peroxides, in shaped medicinal preparations, and as embedding mediums for microscopic study.

Ointment bases made with these polyethylene glycols bring dissolved antibacterial agents in contact with the tissues in known dilution; they spread evenly and adhere well even if the skin is moist. They are readily washed off with warm water without the use of soap, even though they may permeate clothing. However, it is suggested that medicinals incorporated in a Carbowax compound ointment base should be reduced below the concentration normally employed in oil-base vehicles, since it has been shown that many medicaments are more active in a Carbowax ointment base.

Many examples of such utility appear in the medicial and pharmaceutical literature. For example, an ointment for treating athlete's foot (dermatophytosis) may be made from:

Carbowax compound 4000	**35.0 parts**
n-Propanol	**10.0 "**
Sodium propionate	**16.4 "**
Propionic acid	**3.6 "**
Propylene glycol	**5.0 "**
Zinc stearate	**5.0 "**
Water sufficient to make	**100.0 "**

A topical antibacterial that is effective against gram-negative as well as gram-positive organisms has long been sought. Such a soluble dressing may be used in infected surface wounds and in third and fourth degree burns for the prevention of infections and for treating all secondary infections, infected ulcers, and impetigo. A typical formula for such dressing comprises 0.2 Gm. 5-nitro-2-furfuraldehyde semi-carbazone in the following base:

Polyethylene glycol 3000 . . . 54.8 Gm.
Carborwax compound 1540 . 30.0 Gm.
Carbowax compound 4000 . 15.0 Gm.

It is also noted that the Carbowax compounds are excellent vehicles for the sulfonamides. Their low order of toxicity, great solvent powers for the sulfonamides, and the high penetration of the sulfonamides from Carbowax compounds into injured skin made them practical carriers. Penetration into injured skin is not significantly increased bacteriostatically from concentrations greater than 10 per cent. In injured skin, the type of base and the concentration of sulfonamide determine the penetration.

Another example of the value of these compounds in their use in antifungal preparations. For example, a washable ointment for treating ringworm of the scalp contains:

Salicylic acid	**0.45 parts**
Precipitated sulfur	**3.0 "**
Triethanolamine	**25.0 "**
Carbowax compound 1500	**30.0 "**

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Improved Aromatic Elixir

Aromatic elixir USP finds extensive use in pharmacy. However, as noted by C. O. Ewing, O. R. Krone and C. W. White (*J.A.Ph.A.*, Pract. Ed. 10:102, 1949) it has certain disadvantages. Hence they suggest that greater uniformity of manufacture would be attained by different pharmacists if the formula were to be modified as follows:

Compound orange spirit U. S. P.	**12 cc**
Calcium phosphate U. S. P.	**35 Gm.**
Syrup U. S. P.	**350 cc.**
Alcohol U. S. P. Distilled water, of each, enough to make	**1000 cc.**

Thoroughly mix the compound orange spirit with the calcium phosphate in a mortar, and transfer the mixture to a filter paper which previously has been wetted with a 25 per cent solution of alcohol. Next pass through the filter a 25 per cent solution of alcohol sufficient to produce 650 cc. of filtrate. (About 685 cc. will be required.) Finally add the syrup to the clear filtrate and mix well.

Simple elixir produced by this formula will contain 16 per cent of absolute alcohol by volume. This will overcome the reported objection that the present alcohol content (about 22-23 per cent is too high. While the reduction in sugar content of about 7 per cent is small, it is in the direction of lessened sweetness to which objection also has been made. Nevertheless, this slight reduction does permit a finished product with an alcohol content that is sufficiently high to ensure stability.

British Patents on Powdered Silk

Considerable interest has been evinced concerning the use of powdered silk in cosmetics. Especially pertinent, therefore, are three British patents on this material which are cited in Soap, Perfumery and Cosmetics (21:1118, 1948). Thus, in British Patent 482, 269, R. W. Lawson describes a method of reducing fibres of wool and natural silk to the form of an impalpable powder, according to which the wool or silk, after being freed from foreign and deleterious matter, is subjected to the action of an alkali under such conditions as to weaken the fibres but not to dissolve them. The mass is then neutralized and the fibres so obtained, after being washed and dried, are ground to an impalpable powder in a suitable grinding apparatus, such as a mill of the pestle and mortar type. Such powders serve as ingredient for face powders, they spread easily, have high absorbent capacity and can be mixed with talc, kaolin, chalk and similar substances.

In contrast, in British Patent 519,544 (granted to F. H. Clayton & Brocklehurst-Whiston Amalgamated, Ltd.) it is stated that textile fibres or threads are subjected to grinding, one obtains non-uniform particle sizes, which do not mix well with other ingredients of face powder. It is therefore suggested to dissolve natural silk fibres or threads in a solvent comprising a solution or suspension of a hydroxide of a heavy metal in an aqueous alkaline medium, to clarify the solution and mix it with an acidic precipitating agent, which forms with the heavy metal ion a derivative soluble in the precipitating medium employed, and to separate and dry the precipitated material. Such improved powdered material (containing silk fibroin) can be used as a suitable ingredient for cosmetic preparations and can also be dyed or tinted.

In a third patent, (Brit. Pat. 555,044) S. G. Phelps recommends a process for the manufacture of powdered silk by boiling the raw silk in a weak solution of sodium lauryl sulphate, washing it in cold water, heating it in dilute sulphuric acid and adding powdered borax, the fluid being then drained off, the broken silk washed and dried and finally pulverized for cosmetic and pharmaceutical purposes.

European Studies of Syringe Sterilization

During the latter part of the war the British Medical Research Council appointed a committee to consider methods of sterilizing syringes, and the result of its labors was published in an M.R.C. memorandum. As pointed out in the *British Medical Journal* (1:317, 1949), The chief conclusion reached was that no chemical method can be depended on to sterilize a syringe and that absolute safety can be assured only by dry heat at 160°C. or by autoclaving. The use of certain chemicals was also objected to on account of their possible effects either on medicaments injected or on blood withdrawn for diagnostic tests. Provided that they were applied only to syringes used for aseptic purposes, methods such as simple boiling or immersion in spirit which do not achieve absolute sterility were considered permissible in certain circumstances.

At about the same time an inquiry into the same subject was undertaken in Switzerland by a commission appointed by the Swiss Society of Surgery. Its findings appeared in the form of a monograph. A recently-published second edition of this monograph is particularly interesting because it discusses the British M.R.C. memorandum and disagrees with the British findings in several respects. Dry heat is granted to be an ideal method when feasible, but a higher temperature is recommended: this is stated as 180°-200°C. Autoclaving is approved, as also is a similar method almost unknown in England, that of boiling under pressure; this would of course be feasible in any pressure-cooker. The remaining alternative method of absolute sterilization is boiling at atmospheric pressure in a disinfectant solution: this is a proceeding suggested for the general practitioner with neither time nor equipment for anything else. Four solutions are suggested—2 per cent sodium carbonate with or without 0.1 per cent of formalin, 2 per cent "Desogen" (a quaternary ammonium compound evidently widely used in Switzerland), or 1 in 20,000 "Merfen" (phenylmercuric borate). These reagents have to be washed out of the syringe with sterile distilled water before use. The British editorial notes that the Swiss commission has been at great pains to show that such traces of these disinfectants as may remain in the syringe can do no harm, and elaborate pharmacological tests are described showing that adrenaline, insulin, strophanthin, penicillin, and certain vitamins and hormones are unaffected by them.

British Patent on Make-up Base

British Patent 577,040, granted to the House of Westmore, Inc., describes a non-drying liquid cosmetic make-up foundation comprising a vegetable oil and a texture ingredient (e.g., zinc oxide, titanium oxide, other oxides, clays, stearates, and talcs) contains also p-hydroxybenzoic acid as a preservative and oxycholesterol as a skin penetrant. Glycerol tri-stearate may be included as a dispersing agent, and perfumes and coloring matter may be added. The vegetable oil, which preferably comprises 55-56 per cent of the mixture, may be sesame oil or other oils, for example cottonseed oil, peach kernel oil, peanut oil and corn oil. In the preparation of the composition, the glycerol tri-stearate is added after mixing and grinding the other ingredients.

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Advancing Therapy

Chloromycetin Synthesized

At the 115th Meeting of the American Chemical Society, held in San Francisco during the last week in March, J. Controulis, M. C. Rebstock and H. M. Crooks, Jr. reported the synthesis of the antibiotic, chloromycetin. One of the compounds prepared by this team of workers has proved to be identical in all physical, chemical, and biological properties with the chloromycetin produced by fermentation. The first antibiotic to be synthesized on a practical basis, the synthetic product has been named chloramphenicol.

Actually, first news of the production of chloramphenicol appears in the February, 1949 issue of the Proceedings of the Society for Experimental Biology and Medicine. Here J. E. Smadel and his associates reported that tests on embroyonated eggs, mice and two human patients with scrub typhus fever showed that the synthetic chloromycetin is as effective as the mold-produced one. In these tests it was tried against scrub, epidemic and murine typhus fevers, spotted fever, psittacosis (parrot fever), rickettisialpox and the lymphogramuloma virus.

Neomycin, New Antibiotic

The isolation of neomycin, a new antibiotic active against streptomycin-resistant bacteria, including tuberculosis organisms, has been reported by S. A. Waksman and H. A. Lechevalier. As pointed out in the report in *Science* (109:305, 1949), the isolation of neomycin is one result of continued investigations to find a compound which, like streptomycin, would be effective in the treatment of tuberculosis, and yet not have the limitations associated with streptomycin. These limitations are, first, neurotoxic potentialities, and; second, the development of resistance by the infectious organisms on continued administration of streptomycin.

In comparison with streptomycin, especially with respect to the above limitations, neomycin preparations were found to have several desirable properties, which fully justified a more detailed study. For example, neomycin shows considerable activity, sometimes greater activity than streptomycin, against various tuberculosis organisms. Neomycin has limited or no toxicity to animals. Organisms sensitive to neomycin show lack of resistance or only limited development of resistance to the new antibiotic. The organism producing neomycin is *Streptomyces fradiae*, obtained from the soil. Methods for producing neomycin are essential the same as for streptothricin and streptomycin. Since neomycin has not yet been obtained in crystalline form, very little is known of its chemical structure. Preliminary results indicate that it is distinctly different chemically from streptothricin or streptomycin.

Antihistaminic Drugs vs Common Cold

Further studies have confirmed the earlier observations by J. M. Brewster (U. S. Naval Med. Bull. 49:1, 1949) that the antihistaminic drugs are patent agents for aborting the common cold. He believes that the initial phase of the common cold is an allergic reaction. Antihistaminic drugs, by interrupting this allergic reaction, are capable of aborting the common cold when treatment is begun in the initial phase. In a series of 572 patients with common colds, it was observed that the effectiveness of the antihistaminic treatment is inversely proportional to the time interval between the onset of symptoms and the beginning of therapy. From the results obtained, Brewster believes that the incidence of the common cold will be reduced to a startling degree "when the antihistaminic drugs are more widely used for the early medication of colds, much as aspirin is used at the present time.

Aluminum Foil in Burn Therapy

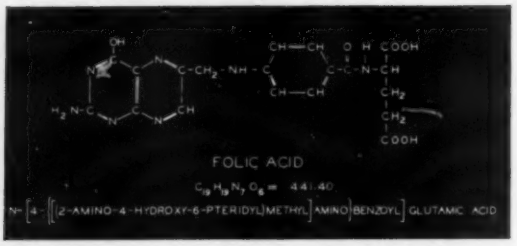
Further evidence of the value of aluminum foil in burn therapy is presented in the study made by W. A. Brown, A. W. Farmer and W. R. Franks (*Am. J. Surg.* 76:594, 1948). They showed that aluminum foil, at a thickness of 0.001 inch, can readily be molded on the contours of the body. Thicker foils were found to be more unwieldy. On the other hand, foil as thin as 0.0004 inch has been used and, although it could be applied with ease, fragmentation occurred, with the result that its removal piece by piece from the burn surface on the tenth day was tedious. All foils were permeable sheets. The application of aluminum foil to the burn surface is performed as follows: 1. After adequate sedation, the burn area is cleansed with 1 per cent aqueous cetyltrimethylammonium bromide sluiced clean with saline solution and blotted dry with a sterile towel. 2. Dry aluminum foil which has been sterilized by autoclaving is smoothed by hand onto the burn surface. 3. The routine pressure dressing is then applied over the foil. Aluminum foil has been used as the initial dressing for burns in 50 cases. For comparison portions of the burn surface of 9 patients treated with aluminum foil were covered with one of four other metals. The local results at ten days in 8 cases were equal to the remaining areas covered with aluminum foil. The gold and silver leaf was found to be fragmented and adherent to the dressings or the burn surface. Aluminum foil diminishes the maceration of a burn surface. The method appeared to facilitate the dispersion of exudate to the periphery of the burn. No evidence of toxicity was found. Titanium dioxide exposure cream as a burn ointment was irritating; it produced pain, delay in healing and possibly caused destruction of epithelial remnants.

Vitamin B_{14}

The isolation of a new member of the vitamin B complex has been reported by E. R. Norris and J. J. Majnarich in Science (109:32, 1949). The new compound was obtained from normal human urine as balls of small brown crystals. It was designated as vitamin B_{14}, although its origin and function is probably more that of a hormone than a vitamin. A minute amount of this new vitamin checks the reproduction of cancer cells, specifically

IMPORTANT MEMBER OF B COMPLEX • FOLIC ACID

(pteroylglutamic acid)



FOLIC ACID, an important member of the Vitamin B Complex, is now being used in increasing quantities in multi- and B complex vitamins. Folic Acid has a wide range of application in anemia therapy and has been demonstrated to produce dramatic results in a number of macrocytic anemias, including sprue, gestational macrocytic anemia, macrocytic anemia of gastrointestinal origin, and the macrocytic anemias associated with pellagra and similar deficiency states. Folic Acid is effective either by oral or parenteral administration and is especially recommended for those patients exhibiting sensitivity to liver extract. Because anemias are generally considered to be dietary deficiencies, it is natural to combine folic acid with other members of the B complex in vitamin preparations.

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(powder, crystal and micro crystal)
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(powder, crystal and micro crystal)
Sodium Sulfathiazole U.S.P.
Sulfapyridine N.F.
Sodium Sulfapyridine
Sulfabenzamide
Sodium Sulfabenzamide
Aminoacetic Acid N.F.
Calcium Pantothenate (Dextro)
Choline Chloride
Choline Dihydrogen Citrate
Cinchophen N.F.
(and Sodium Salt)
Dicumarol
Folic Acid
Neocinchophen U.S.P.
Mandelic Acid N.F.
Calcium Mandelate U.S.P.
Menadione U.S.P.
Methylene Blue U.S.P.
(powder and crystal)
Nicotinic Acid U.S.P.
Nicotinamide U.S.P.
Nicotinamide HCl.
Pyridoxine HCl.
Saligenin
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those of the Brown Pearce tumor, in test tube experiments. But it increases production of red blood cells in bone marrow. This effect also was found in test tube experiments. The vitamin's effect on red blood cell production was about the same as that of enzyme systems in the stomach which are one of two factors necessary to prevent pernicious anemia. The enzymes act on anti-anemia substances, such as folic acid, to increase red blood cell production. But while vitamin B_{14} has the same effect as the chemical product of enzyme action on folic acid, the scientists do not think it is the same chemical.

Vitamin B_{12} in Tropical Sprue

In their report in *Blood* (3:1213, 1949) T. D. Spies and R. M. Suarez report the results obtained in five cases of tropical sprue with injections of vitamin B_{12}. A single dose of 4 micrograms administered in 1 case produced little or no change. The larger dosage of 10 to 25 micrograms administered in other cases was accompanied by a striking increase in strength and vigor and a decrease in the diarrhea. In no instance was a maximum dose given, and these patients quickly tended to relapse clinically and hematologically. They could be relieved promptly again either by another injection of vitamin B_{12} or by a compound of folic acid. A single injection of approximately 100 micrograms of vitamin B_{12} would probably be needed to produce a full hematologic response. This tentative appraisal would suggest that vitamin B_{12} per unit of weight, is more effective in treating human disease than any compound that yet has been used.

New Tannin for Burns

Because of the success of the tannic acid method of burn therapy F. W. Bope, E. M. Cranston and O. Gisvold (J. Pharmacol. & Exper. Ther. 94:209, 1948) decided to investigate a substance which might eliminate or at least decrease some of the objectionable properties of tannic acid, but at the same time maintain or even increase its favorable properties. The pharmacologic investigation of the tannin obtained from Pinus caribaea, Morelet, was suggested after a consideration of the properties of this natural tannin and its ability to react with proteins in a manner similar to tannic acid. This experimental work gives a comparison of the relative toxicities of the phlobatannin of Pinus caribaea and tannic acid and a comparison of the effects of these two tanning agents in the local treatment of burns. The phlobatannin used in this work was crude phlobatannin obtained by defatting the inner bark of the slash pine tree Pinus caribaea, extracting with 95 per cent alcohol, and then removing the alcohol by vacuum distillation. Tannic acid, injected intraperitoneally into mice, caused necrosis of the liver, whereas phlobatannin produced a different type of liver injury, namely, diffuse hepatitis. Phlobatannin has approximately one-sixth of the acute toxicity of tannic acid. In the local treatment of burns, solutions of phlobatannin and of tannic acid were about equal in respect to time required for the formation of a complete eschar over the burned area. However, the eschars formed with phlobatannin remained completely intact slightly longer, were less stiff and brittle and were lighter in color than those produced by tannic acid. This experimental work indicates that Pinus caribaea phlobatannin possesses the beneficial properties of tannic acid in the local therapy of burns, but is decidedly less toxic.

Dangers of Excessive Vitamin A Dosage

The dangers resulting from the prolonged and excessive administration of vitamin A are indicated in a report by G. Moriguand (*Presse Med.* 56: 737, 1948). He stresses that the danger is especially great in the absence of a properly balanced diet. Whereas rats on a well balanced diet tolerated rather large doses of cod liver oil over prolonged periods without showing signs of osseous dystrophy, animals on deficient diets exhibited after the same doses of vitamin A spontaneous fractures and generalized osseous fragility. Later investigators found that large doses of vitamin A, but not carotene (provitamin A), also produce signs of hypervitaminosis in the osseous system. Men who had eaten livers of polar bears and sea bears, which contain millions of units of vitamin A per pound, showed signs of intoxication in the form of excitation, extreme irritability, vertigo, headaches, vomiting and somnolence. Vertigo and other signs of intoxication were also observed in a man who had taken daily 6,000,000 units of vitamin A for five successive days. These symptoms subsided ten days after this medication was stopped. Other observers reported severe headaches, loss of weight and appetite, falling of hair and enlargement of liver and spleen after administration of excessive doses of vitamin A. Moriquand expresses hope that the same mistake will not be made with vitamin A as with vitamin D.

Penicillin in Oral Infections

It has been pointed out by W. G. Cross (Brit. Med. J. 1:171, 1949) that the local use of penicillin in the mouth for the treatment of oral infections has led to a number of oral reactions. These consist mainly of discoloration of the tongue or stomatitis with marked glossitis. In reviewing reports of such cases as well as his own observations, Cross states that the following causes of the reactions have been suggested: (1) the base of penicillin lozenges, (2) nicotinamide deficiency, (3) the presence of penicillin-insensitive organisms, with the absence of the normal flora, (4) individual sensitivity to one or more penicillins or impurities. Clinical trials were carried out with B. P. lozenges produced by seven firms. Lozenges containing the base only (gum tragacanth 3 to 8 per cent, magnesium stearate 0.8 to 2 per cent and flavoring agents) were given to a number of patients, including some who had previously developed reactions with penicillin lozenges. No toxic reactions developed. A number of patients receiving two-and three-day courses were given penicillin lozenges containing 2 Mg. of nicotinamide; discolored tongues developed in many of these. Both types of reaction were observed in patients treated with lozenges containing 96 per cent penicillin G, with only 4 per cent of other penicillins and no impurities. Cross observed that reactions do not occur until there has been a complete change in the character of the oral flora—in about 48 hours. He suggests that the use of penicillin for oral infections might reasonably be limited to this time and considers that the use of chewing gum (10,000 units per piece) three times daily is suitable for this purpose.

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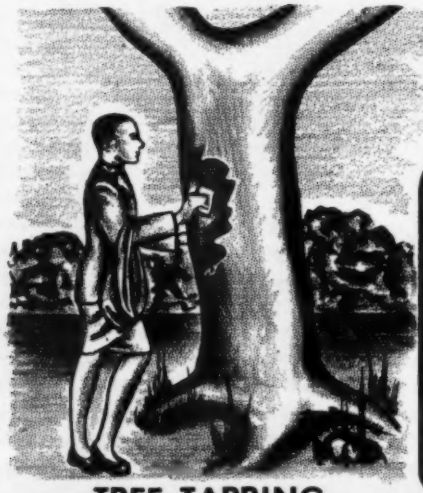

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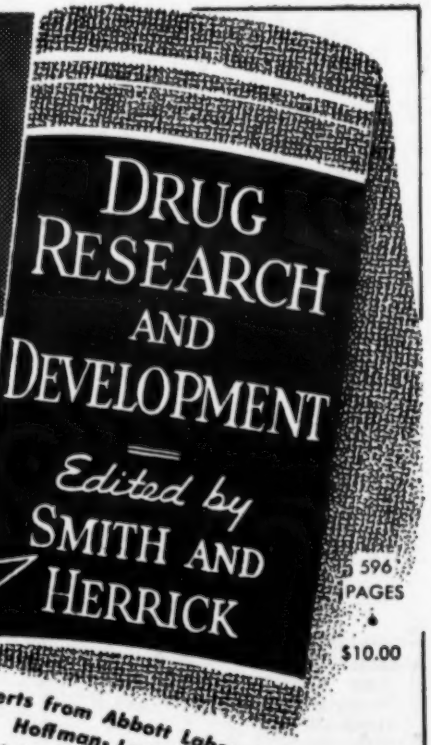

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Perfumer's Shelf

News Letter on Essential Oils

Earlier this year, publication was started on a new and interesting bi-monthly publication called "Bertrand Freres News Letter." This news letter, it is said, is prepared for the information and reference of buyers and technicians engaged in the use of natural essential oils. The first issue, for January, 1949, carried a comprehensive review on true lavender oil as produced in France. The second issue, for March, contains a discussion of the contributions of the bitter orange tree to the perfume industry. In addition to such reviews, the News Letters also carry brief notes on technical data, market conditions and the like with respect to natural essential oils. The News Lettter is being published by Bertrand Freres, Inc., 111 Broadway, New York 6, N. Y.

Cornell's "Olfactorium"

The newest tool of the Psychology Department of Cornell University is its "Olfactorium," a double, air-tight, glass compartment, with an elaborate air-conditioning system that feeds in odorless air plus any desired amount of some scent or combination of scents. The smeller is carefully sterilized and clothed; even exhales through a tube to the outside. One of its first results may be a uniform and practical technical vocabulary of odors.

Congealing Point for Estimating Anethole Content

In an attempt to develop a rapid method for the estimation of anethole in anise and fennel oils, the laboratories of Fritzsche Brothers, Inc. have determined the congealing points of known anethole-limonene mixtures. These results showed the congealing point to be a function of the anethole content and proportional to it. Within the range of anethole concentration studied, the curve obtained was, to all intents and purposes, a straight line.

In applying the results of the anethole-limonene congealing points to such complex mixtures as anise and fennel oils, the assumption is made that the molecular weight of limonene is equal to the weighted average molecular weight of all the components of the oil other than anethole. Therefore, the results obtained with the use of these dats will be only approximate; i.e. they will not be absolute, but relative.

	COMPOSITION % *Anethole* (by wgt.)	% *Limonene* (by wgt.)	*Congealing Point* (°C.)
1	55	45	+2.2
2	60	40	+4.0
3	65	35	+6.2
4	70	30	+8.0
5	75	25	+9.9
6	80	20	+11.6
7	85	15	+14.0
8	90	10	+16.3
9	95	5	+18.6
10	100	0	+21.1

The procedures employed in these experiments are also considered briefly. Anethole was purified as follows: A commericial product of N. F. VIII quality was fractionated under vacuum using an 8" Vigreaux column, the initial and final 10 per cent cuts being discarded. The main fraction (80 per cent) showed a congealing point of 21.1°C.

d-Limonene (from orange terpenes) was purified by the following sequence: (1.) Washing with sodium bisulfite solution. (2.) Distillation over metallic sodium at atmospheric pressure, the initial and final 10 per cent cuts being discarded. (3.) Vacuum fractionation using an 8" Vigreaux column, discarding the initial and final 10 per cent cuts. The final product showed an optical rotation of +100°54'.

All congealing points were determined by the USP XIII method.

Oil of Melaleuca Bracteata from Kenya

In their report in the *Bulletin of the Imperial Institute* (96:46, 1948), D. J. Cosgrove, H. T. Islip and E. M. Thain state that *Melaleuca bracteata* F. v. M. (N. O. Myrtaceae) is a tree reaching 30 to 40 feet in height which is indigenous to Australia and also occurs in Java. From its leaves and terminal twigs an essential oil can be obtained by steam distillation. Other *Melaleuca* also yield essential oils, such as *M. linariifolia* and *M. alternifolia*, from which Australian tea tree oils are obtained. In 1946 the Imperial Institute received from Kenya a sample of oil from *M. bracteata*. It had been prepared by distilling in steam the leaves and terminal twigs. The yield of oil was 0.5 per cent. The trees from which the material had been collected had been grown from seed obtained from the Forestry Commission of New South Wales, and planted in 1944.

The sample amounted to about one pint of pale lemon-yellow colored oil having a faint, pleasant aromatic odor in which that of eugenol or methyleugenol could be detected. The oil was filtered through paper in order to remove a slight turbidity. On examination, the clear, filtered oil was found to have the following constants:

Specific gravity	**1.0506**
Optical rotation	**−3.03°**
Refractive index	**1.5370**
Aldehydes and for ketones	**1.0 per cent**
Phenols	**2.0 per cent**
Acid value	**1.03**
Ester value	**24.0**
Ester value after acetylation	**31.4**
Solubility in 70 per cent alcohol	**Soluble in 1.5 vols. and more**

It is indicated that the ester values were determined on acid-,aldehyde-, ketone-, and phenol-free oil.

These data show that, apart from the specific gravity, the constants of the present sample of oil of *M. bracteata* from Kenya are in fair agreement with those recorded by Baker and Smith for Australian oils and by Gildemeister. The specific gravity is, however, significantly higher. Chemical analysis indicates that sample of *Melaleuca bracteata* oil from Kenya had the following composition:

	per cent. (w/w).
Aldehydes (mainly or entirely cinnamic aldehyde)	**1.0**
Phenols (mainly or entirely eugenol)	**1.7**
Acids (mainly or entirely cinnamic acid)	**0.3**
Free alcohols (unidentified but probably tertiary: as $C_{10}H_{18}O$)	**2.0**
Esters (unidentified: as cinnamate of alcohol $C_{10}H_{18}O$)	**11.7**
Phenol ethers (methyleugenol)	**82.0**
Undetermined (terpenes and sesquiterpenes)	**1.3**

Leaf Oils from Conifers

In a report on leaf oils from the Tennessee Valley conifers, L. F. Bailey (*J. Forestry* 46:882, 1948) presents a summation of current knowledge of the yields, specific gravity and chemical characteristics of oils which were steam distilled from the foliage of 26 species of North American conifers. Bailey also describes the experimental equipment for steam distilling the essential oils. The oil yields from the foliage of young and older, dominant and suppressed trees of eastern red cedar, and Virginia, shortleaf; and loblolly pine, taken in summer fall, and spring, ranged from 0.48 per cent in the young dominant red cedar to 0.07 per cent in the Virginia pine. The specific gravity, index of refraction and optical rotation of each of these fragrant oils are given. The summer yields were lowest. With improved harvesting and distilling procedures, Bailey believes that the use of waste tops from logging operations may permit the economic production of conifer leaf oils in the Tennessee Valley.

Terpeneless Oils

A concise discussion on terpeneless oils is given by E. E. Lenallen in the *American Druggist* for March, 1949. He points out that terpeneless oils are volatile oils from which most of the terpene constituents have been removed in order to obtain a product which represents, in a concentrated form, the odorous principles of the oil and which has the advantages of greater solubility in diluted alcohol and greater stability than the corresponding natural oil. In a general sense, terpenes are hydrocarbons usually having formulas which are multiples of the simple C_5H_8 or isoprene molecule. In the restricted sense, the term terpene refers to those compounds with 10 carbon atoms derived from $C_{10}H_{16}$. Similarly, the sesquiterpenes have the empiric formula $C_{15}H_{24}$. Several structures are possible for a compound having the formula $C_{10}H_{16}$, but all have one or more double bonds, and it is this unsaturation which accounts for the tendency of these compounds to oxidize and resinify easily under the influence of air and light, leading to a spoilage of odor and flavor and a lowering of the solubility in alcohol. On the other hand, the principal odor carriers in the natural oils are the oxygenated compounds such as alcohols, esters, ethers, aldehydes ketones, etc., which show less tendency toward oxidation and resinification. It is not remarkable, therefore, that attempts have been made to obtain products which represent the stable, odorous portions of the oil without the unstable terpenes. In most instances, terpeneless and sesquiterpeneless oils retain the flavor and odor characteristic of the original oil and are more soluble, more stable, and represent a concentration of the valuable properties.

Terpenes may be removed by fractional distillation in vacuum or by taking advantage of their lesser solubility in diluted alcohol or other solvents. It is of interest that the proportion of oxygenated compounds present in the original oil automatically limits the degree of concentration which may be attained. One volume of a specific terpeneless oil may represent 30 to 40 volumes of the original oil while another volatile oil may be capable of being concentrated only 2 to 3 times. In conclusion, says Leuallen, it should be pointed out that concentrated oils undoubtedly serve a useful function in many formulations due to their greater solubility and stability but that they cannot replace the natural oils for all purposes. Some authorities recognize a loss in characteristic odor and flavor through removal of the terpenes and sesquiterpenes and there is little doubt that some odorous principles are affected adversely by the heat used in distillation.

Solid and Liquid Perfumes

In a discussion in the *Manufacturing Chemist and Manufacturing Perfumer* (20:25, 1949), T. Ruemele notes that solid perfumes, as opposed to liquid preparations, are not uniformly formulated. The perfume vehicle differs in most cases, and soaps or waxes as the adsorption agents might be regarded as the forerunners of the newer types. Generally the ratio of perfume to adsorption agent is 1:20. The selection of the suitable and most promising adsorption agent, which should be also compatible with the base used, determines the quality of the product. It is important, of course, that the perfume essence should be well fixed. Sometimes the essential oils to be incorporated are specially prepared.

Comparing solid and liquid perfumes, there is no doubt that the former are distinctly limited in their use, which is almost confined to refreshing purposes. Another point to be considered is that the adsorption of the perfumes by the vehicle might weaken the development of the olfactory complex. Obviously, liquid preparations do not suffer in this respect, and the desired bouquet is easily obtained.

Another variation of the liquid type of product—a radically different preparation—is the emulsified perfume. The difference lies in the complete or partial replacement of the alcohol by non-ionic emulsifiers, the ratio of the emulsifier to the essential oil being 5:1. This ratio can be varied depending upon the oil used. Ruemele notes that actually, it has not yet been clearly established whether emulsified perfumes might compete with conventional alcoholic solutions, and it would be premature to try to make a judgment. Nevertheless, it can be assumed that emulsified perfumes might be quite useful for such purposes as the perfuming of soap.

Oil of Sweet Goldenrod

In a discussion of essential oil production in Texas, B. R Holland, P. R. Johnson and J. H. Sorrels (*Bull. Agr. & Mich. Coll., Texas Eng. Exptl. Station., Bull.* No. 107, 1948) state that an essential oil can be produced economically from the sweet goldenrod plant (*Solidago odora*). Ease of production is apparent because steam at tow pressure causes the oil to volatilize in a comparatively short period of time. The following typical characteristics of the oil are given:

Specific gravity	**0.930**
Specific rotation	**14.00°**
Indes of refraction	**1.5095**
Acid value	**0.18**
Ester value	**4.98**
Saponification value	**5.16**

The oil is soluble in a ratio of 1:66 volumes of 80 per cent ethyl alcohol.

Long storage in clear-glass bottles exposed to light causes the development of an amber color, a decrease in specific rotation and an increase in acid value, ester value, and in the index of refraction. The oil contains 15 per cent of terpenes (mostly *d*-limonene), 75 per cent of methylchavicol, 3 per cent of *l*-borneol, 3 per cent of esters (as borneol ocetate), and traces of volatile fatty acids. Methyl chavicol is responsible for the anise-like odor and flavor, and these properties are improved greatly by removal of the terpenes. The use of the oil for flavoring chewing gum and bulk candies, and in insecticides and deodorants, is suggested.

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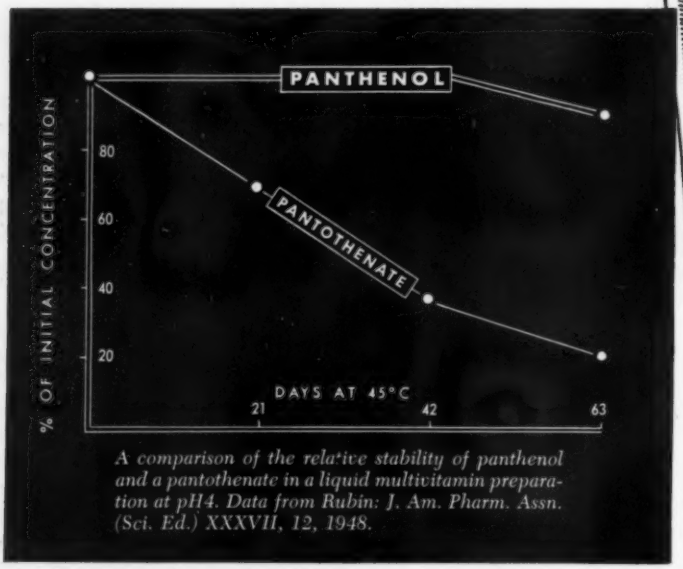

A comparison of the relative stability of panthenol and a pantothenate in a liquid multivitamin preparation at pH4. Data from Rubin: J. Am. Pharm. Assn. (Sci. Ed.) XXXVII, 12, 1948.

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Abreast of the Markets

Crude Material Shortage Endangers Lanolin Supply. Market Continues Strong After Price Advance.

Slow demand continued to characterize the fine chemical market. With very few exceptions these commodities were in ample supply and, under the circumstances, prices were easy.

A producer of technical anhydrous borax reduced the price $7.50 per ton. No other borax grades or boric acid were affected. Menthol was down 15c per pound in a slow market. USP zinc oxide was down ½c per pound. The molasses market on blackstrap appeared to be settling at around 4c per gallon f.o.b. foreign ports. Glycerin prices had apparently made their adjustment on one sharp drop to the point of equivalent price levels on both synthetic and natural production, and the feeling was expressed in most quarters that the current level of prices would remain unchanged for a long period. Tartar emetic followed the price trend of the other tartrates by dropping 3c per pound.

The lanolin market grew progressively tighter in supply and prices advanced 4c per pound. Cocoa butter was another strong point in the market with prices being advanced 5c per pound.

Lanolin Price Advanced

An acute shortage of lanolin, the grease obtained in the processing of raw wool, is developing due to the decline in wool imports and domestic production. Prices have already been advanced 4c per pound with the spot market range now 24c to 30c as to grade. Further increases are expected during the next few months.

Lanolin purified and hydrated wool fat, is used extensively in medicinal remedies, cosmetics, cordage, soaps, adhesives, lubricants and many other industrial capacities.

About 22,000,000 pounds of wool grease was recovered in the wool scouring process in 1947. Last year the recovery was considerably larger. This year, faced with the smallest stockpile of wool since the civil war, the lanolin supply is expected to hit an all time low, large producers predicted.

Since the first of the year lanolin prices have risen more than 35 percent. In the third and final quarters of 1948 lanolin was obtainable at from 19c to 21c per pound. Current prices are in the range of from 24c to 30c.

By the end of April the price is expected to climb to about 32c per pound since there is little possibility of an increase in the supply of crude wool grease, producers said.

Nine years ago the market price was around 18½c per pound. The OPA ceiling price was 33c to 35c.

Lanolin has almost always been readily available. The supply last year was so ample that the industry was seeking new uses for the material.

Now, in a comparatively short time this situation has completely reversed itself. The market has tightened, and most producers in this country are seeking foreign sources either for the raw wool or the crude wool grease.

At the present time some of the largest lanolin producers have depleted stocks. They are presently concentrating on the fulfillment of previous commitments. A spokesman for one of the largest lanolin manufacturers in the country stated that every pound of available material has been sold for the second quarter of this year.

This situation has arisen due to the scarcity of the crude wool grease which is a by-product obtained by the wool scouring processes. In 1940 approximately 425 million pounds of raw wool were produced in the United States. In 1947 the output had declined to 225 million pounds. This year a five or ten percent loss is expected due to the severe winter on the western ranges.

Mill owners predict that many additional New England mills which supply crude wool grease will be shutting down shortly. Most of these mills will continue to scour and comb the finer wool until their inventories are exhausted. When this occurs work stoppages will ensue.

Orders secured for the fall sale of sheep wool are negligible. The U. S. Army Quartermaster's Corps is reported to have an order covering some four million yards of wool. This contract will resolve in an unscheduled additional source of wool grease but the amount of recovered wool grease involved will be practically unnoticed in contrast to the current demand.

Importation of crude wool grease from Australia and England has been steadily increasing but these countries have little to offer at the present time. England is already committed to supply most of her European contracts, and Australia is attempting to replenish stockpiles. This leaves the United States with her ever increasing demand for wool grease in an outside position.

The shortage is abnormal, and most of the industry feels that this period will be shorlived. However, with the rate of raw wool being produced in this country at the present time, and the infrequent importation of it from abroad, the situation might last several months.

Alcohol Price Advance Expected

The molasses market seemed to have fairly well settled in the vicinity of 4c a gallon at foreign ports in so far as current purchases were concerned. While this situation was generally regarded as an equitable level for the molasses market under current economic conditions, it left the alcohol price structure still on a sub-cost basis. Sales at current price levels of alcohol meant that producers were losing money on over-all market shipments, have been doing so for months, and more particularly since the last price change which occurred on February 25.

It was certain that the prices would have to advance in the future because it was felt impractical to operate the alcohol industry for a long sustained period as a loss operation. Just when that advance in prices would come in sufficient amount to take the industry out of the red and into the black, was a matter of conjecture. Some quarters were optimistic, looking toward an advance around May 1 or before, but others in evaluating certain attitudes

(Continued on page 626)

• Prices quoted in this section were current on the first of this month,

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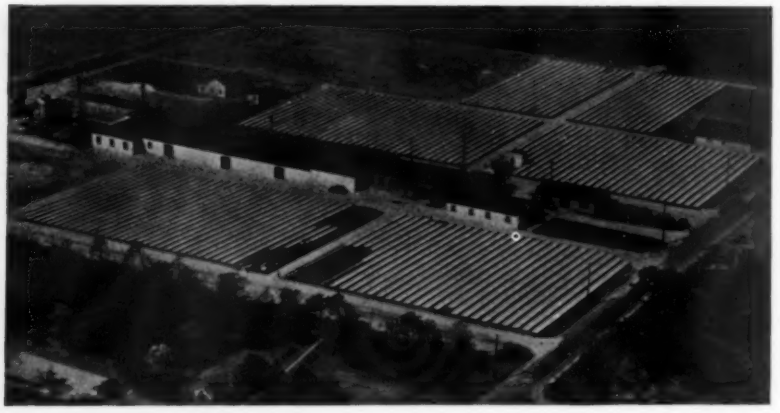

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Peppermint Oil Declines Again---Spearmint Continues Competitive. All Grades of Vanilla Beans Lower Priced.

Redistilled peppermint oil was lower at $6.40 per pound as a minimum open quotation. Natural oil was also reduced 50c per pound to a minimum of $6. Most dealers were convinced that the 1949 crop would bring less money to everyone. The export situation, however, might improve and change the at present apparent trend.

The total exported in 1948 was 229,347 pounds and the principal takers were as follows: Canada, 55,875 pounds; United Kingdom, 28,500 pounds; Netherlands, 40,178 pounds; and France, 18,488 pounds.

For comparison, the prewar exports of 1938 are given as follows: Total exported, 371,866 pounds; Canada, 28,209 pounds; United Kingdom, 197,823 pounds; Netherlands, 12,002 pounds; and France, 27,243 pounds. Should British import restrictions end, the outlook for 1949 peppermint might change.

Competition in spearmint oil was keener and yet most dealers felt that the bottom of the decline must be in sight when the market reached $3.95 to $4.75 per pound quoted according to seller under dull request from manufacturing consumers.

The total exported in 1948 was 77,700 pounds and countries taking the larger quantities were—Canada, 25,695 pounds; United Kingdom, 15,110 pounds; France, 12,539 pounds.

Vanilla Beans Down

Mexican whole vanilla beans were quoted $4.25 to $5 per pound and cuts were $4 to $4.25. Bourbon beans were also priced more favorably at $4.25 to $4.75. Dealers reported demand to be very quiet regardless of the fact that most of them hold the idea that the majority of numerous major consumers of the item hold relatively low inventories at the present time. The situation was vastly unsettled from whatever point of view and the problems facing the vanilla bean importer are those of great difficulty, especially as concerned French beans.

Through a barter arrangement, the French have arranged to exchange Bourbon vanilla beans for American textiles. The arrangement was said to involve about forty-one tons of beans of which about twenty-four tons were said to be afloat. Comment in the spot market was that the house providing the textiles had valued them high, sufficiently so to permit the sale of the Bourbon beans received in exchange to be sold at less than the official price of the French Government.

The attitude of most local dealers was that normality in the vanilla bean business cannot come until the French restore a free, open, uncontrolled, and unrestricted traffic in beans upon which the French islands depend so much for revenue. Such restoration seemed far away and a textile house as entrepreneur in the sale of French beans to American importers constituted a situation the end of which was by no means in sight.

Citronella Oil Received

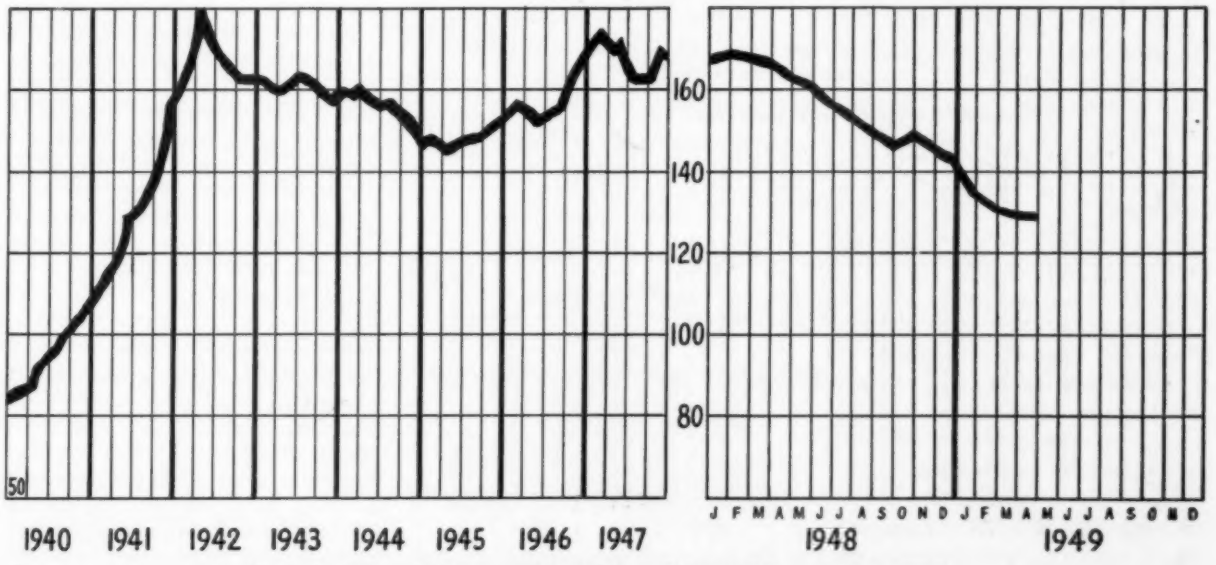
Exports of citronella oil from Shanghai, China, to the United States in 1948 totaled 51,874 pounds, valued at $45,646. In December alone, such exports amounted to 4,400 pounds, valued at $3,580.

Exports of copaiba balsam from the Amazon Region in Brazil during the fourth quarter of 1948 were valued at $17,912, compared with $13,499 in the corresponding quarter of 1947.

Gum Karaya Up

Some shipper of gum karaya in Bombay varied the recent custom of supplying the United States with this material mixed with substantial portions of rat dung. The variation consisted in substituting some olibanum gum for a part of the karaya exported but did not eliminate the usual quota of excreta. Since the first of this year, about 5,400 bags of this gum have been detained on arrival here by order of the Food and Drug Administration. Until this detained gum has been satisfactorily cleaned, the administration would not release it for consumption and dealers said that when released it could be used only for technical purposes. The cost of recleaning runs 2c to 3c per pound and, according to dealers, should be added to the price named to buyers for consumption. The tendency on

50 Raw Materials—Weighted Price Index. 1926 = 100.



The price index of fifty commodities for April declined from 129.4 to 128.5.

APRIL PRICE CHANGES

UP

Balsam Tolu 10c
Cocoa Butter 5c
Lanolin 4c
Saffron American 20c

DOWN

Anise oil 10c
Barberry bark 3c
Bellandonna leaves 15c
Bergamot oil 10c
Bois de Rose Braz. 10c
Buckthorn bark 3c
Burdock root 3c
Calcium stearate 10c
Candelilla wax 8c
Casein 4c
Cassia oil Redist. 5c
Cohosh root 1c
Coltsfoot leaves 5c
Culvers root 5c
Dandelion root 4c
Eucalyptus leaves 3c
Fennel oil 30c
Geranium oil African 50c
Golden seal root 55c
Helonias root 5c
Lemon oil Calif. 10c
Italian 50c
Magnesium stearate 7c
Malva flowers blue 5c
Manna large 15c
small 5c
Menthol nat. 15c
Mercury metal $2
Orange oil Amer. dist. 10c
Peppermint oil Nat. 50c
Redist. 35c
Plantago seed blond 1c
Psyllium seed black 5c
Saffron Valencia $4.50
Sage oil Spanish 30c
Sassafras oil Artificial 8c
Spearmint oil 35c
Spermaceti 12c
Stearic acid TP 3c½
Stramonium leaves 1c
Tartar emetic 3c
Terpineol 4c
Vanilla beans Bourbon 25c
Mex. cuts 50c
Mex. whole 75c
Vetivert oil Java $1.75
Zinc oxide 1¼c
Stearate 5c

spot was to raise quotations along that line. A fairly representative citation of the market seemed to be No. 1 powder at 51c to 52c per pound; No. 2, 47c to 48c; No.-3, 39c to 40c.

Alcohol Price Advance Expected

(*Continued from page 623*)

prevalent in the industry were inclined toward a more bleak view.

Announcements were made during the current trading period of an approximate reduction of one-third in the price of antifreeze of the ethyl alcohol type, which would reduce prices at the retail level from around $1.50 down to $1.00 per gallon. This was an attempt in the ethyl alcohol industry to recapture some of the antifreeze market which in recent years has been lost to methanol. Just how effective this effort will be was a matter of conjecture, but methanol producers took the attitude that they had little to fear from the move, pointing to certain advantages of methanol over ethanol such as greater temperature protection per gallon and the formation of a constant boiling mixture with water.

The Alcohol Tax Unit, Bureau of Internal Revenue, Treasury Department, on April 2 released data on the supply, production, withdrawals, and stocks of ethyl, completely denatured and specially denatured alcohol during the month of February, 1949, in comparison with February, 1948:—

Production

	Proof gallons	
	1948	1947
Ethyl	22,380,513	20,950,838
*Completely denatured	179,236	351,126
*Specially denatured	10,941,919	10,700,049

Withdrawals

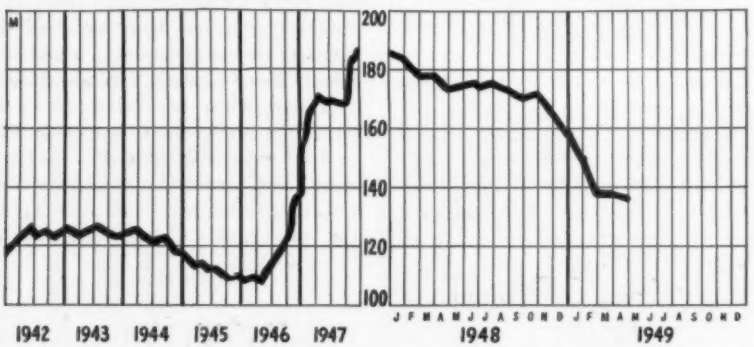
	Wine gallons	
	1948	1947
†Ethyl, tax paid	3,183,992	2,678,223
tax free	20,485,073	17,086,447
*Completely denatured	165,637	349,924
*Specially denatured	9,950,058	10,892,637

Stocks

	Gallons	
	1948	1947
†Ethyl	37,727,446	23,886,294
*Completely denatured	170,070	106,458
*Specially denatured	3,058,971	1,546,513

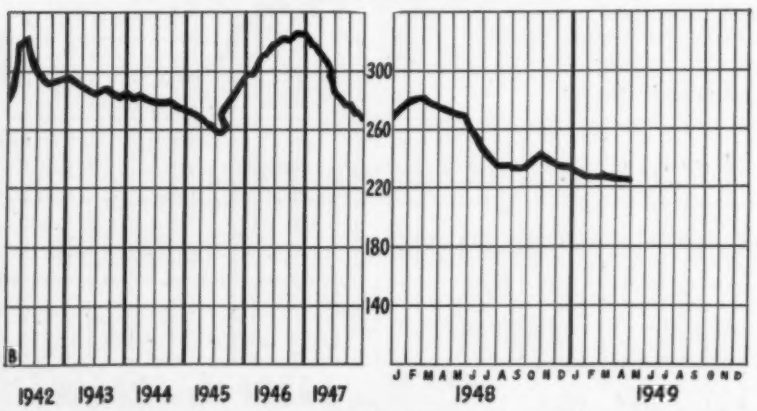
*Wine gallons. †Proof gallons.

15 Medicinal Chemicals—Weighted Price Index. 1926 = 100.



The medicinal chemicals index declined from 138.3 to 137.9. Menthol and Mercury were lower.

15 Botanicals—Weighted Price Index. 1926 = 100.



The botanicals index declined from 227.4 to 226.4. Balsam Tolu was higher, Belladonna dropped to 95 cents.

Tartrates Down

Leading producers of tartrates announced reductions of 3c per pound and are now offering the following price schedules: Acid tartaric USP XIII powder, 230 lb. drum, 35c per lb.; 25 lb. drum, 40c per lb.; Potassium bitartrate NF VIII powder, 250 lb. drum, 30c per lb.; 25 lb. drum, 35c per lb.; Potassium sodium tartrate USP XIII powder, 225 lb. drum, 29c per lb.; 25 lb. drum, 34c per lb.

Production of tartaric acid in Italy in the first 6 months of 1948 amounted to 1,848 metric tons, according to the Italian Coal Committee. This is 28.3 percent less than the 2,576 tons produced in the first 6 months of 1947; output in the year 1947 totaled 4,729 tons. In the period January-November 1948, exports of tartaric acid totaled 781 tons, valued at 282,728,000 lire (575 lire equals US$1.)

Olive Oil Production Small in Greece

Production of edible olive oil in Greece in 1948-49, according to the final estimate is 51,463 short tons. This is 68 percent lower than the 1947-48 crop of 160,000 tons and 59 percent less than the prewar (1934-38) average of 126,500 tons. There was an estimated carry-over of 57,000 tons from the large 1947-48 production at the time

this season's oil became available and this quantity will help offset shortages in 1949. Indications are that no large-scale stocks of olive oil are being held by Governmental or quasi-governmental agencies at this time. Although the export of edible olive oil was prohibited in August 1948, small quantities have been exported illegally each month since that time.

A sellers' market continues to prevail in edible olive oil and prices seem to have stabilized at a high level. Speculators are not disturbing this situation by dumping large stocks on the market, and small growers are selling only what is necessary to acquire cash for essential purchases. Since oil is so important to their economic welfare, growers are not inclined to dispose of their entire supply before they have some indications of the size of the 1949 olive crop. This cannot be ascertained before the end of May 1949.

Stearates Down

The following prices prevail following a reduction in stearates. Aluminum stearate technical D, 50 lb. boxes, 31c per lb., aluminum stearate technical M, 50 lb. boxes, 31c per lb., aluminum stearate technical fluffy, 50 lb. boxes, 32c per lb., ammonium stearate technical, 50 lb. drums, 40c per lb., calcium stearate technical bulky grade A, 50 lb. boxes, 34c per lb., calcium stearate impalpably powder grade A, 50 lb. boxes, 36c per lb., magnesium stearate purified impalpably powder, 50 lb. corrugated boxes, 37c per lb., zinc stearate USP XIII, 50 lb. corrugated boxes, 36c per lb.

Cocoa Butter Up

The market for cocoa butter strengthened pricewise and moved up to 46c per pound in carlot quantities, with less than carlot quantities available at 47c. This was a price recovery of 5c per pound after the declines of recent weeks.

Wax Market Soft

The market for candelilla wax continued weak and prices scored further declines. Crude wax was quoted at 45c to 48c per pound, depending upon quantity. Refined also was lower at 50c and 53c per pound, same basis.

Imports from Mexico in 1948 (2,593,000 pounds) were 69 percent less than those in 1947 (8,424,000 pounds). No imports of candelilla wax were made during the first 6 months of 1948 due to the discontinuance of gathering of this wax during the latter part of 1947 and the exhaustion of stocks in Mexico.

Increased offerings of crude beeswax from Africa created a weaker tone and quotations were off about 1c per pound for spot stocks. Trading was inactive. Refined grades were unchanged with demand confined to small lots.

Receipts of 4,637,000 pounds of beeswax during 1948 represented a rise of 34 percent over 1947 arrivals. During 1947, 38 percent of the imports originated from the Eastern Hemisphere, whereas in 1948, 44 percent came from there.

While business in carnauba wax was light, the market remained steady. Stocks on the spot were well held at unchanged prices, except refined No. 3 North country which was advanced 2c to 80c per pound. Trading for shipment from Brazil was reported as fair.

United States imports of carnauba wax in 1948 totaled 15,261,000 pounds, valued at $11,229,000, a rise of 29 percent over 1947 quantity (11,836,000 pounds) but a decline of 18 percent in value (13,653,000).

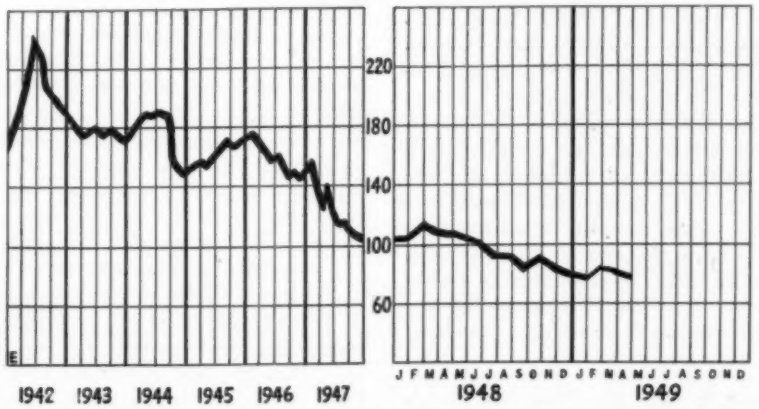
Imports of ouricury wax in 1948—2,956,000 pounds—were off from the 2,880,000 pounds received in 1947.

Pyrethrum Stocks Low

Stocks of pyrethrum in this country are considered low. The general feeling is that demand will be higher than during 1947 or 1948 and a shortage may occur. However, the recent rise in prices may curtail consumption. Imports of pyrethrum in 1948 totaled 3,633,000 pounds, a decline of 55 percent from the 8,082,000 pounds received in 1947. During both years Kenya was the source for slightly over 50 percent of arrivals, most of the remainder coming from Belgian Congo. Exports of pyrethrum extract in 1948 totaled 48,000 pounds, compared with 67,000 pounds the previous year.

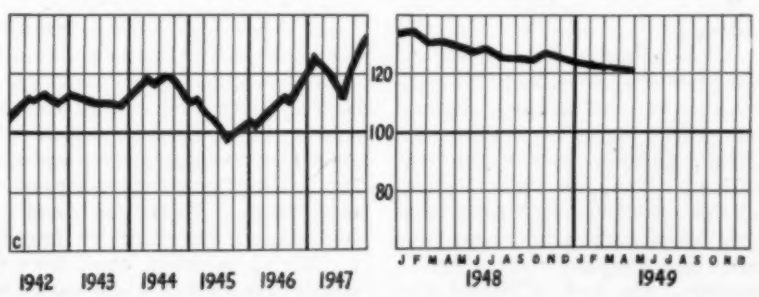
The Argentine Government is attempting to promote the growing of pyrethrum by offering free seed to farmers. At present, Argentina's requirements are met largely by imports.

15 Essential Oils—Weighted Price Index. 1926 = 100.



The essential oils index declined from 87.6 to 85.2. Anise, bergamot, Bois de Rose, Cassia, Geranium, and Peppermint were lower.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100.



The cosmetic raw materials index declined from 123.2 to 122.4. Balsam Tolu and lanolin were higher. Candelilla wax, menthol, stearic acid, and zinc oxide were lower.

Industry's Books

The Literature On Streptomycin 1944-1948, by Selman A. Waksman, Department of Microbiology, Rutgers University, 112 pp., Rutgers University Press New Brunswick, 112 pp., $3.

The first announcement of the isolation of streptomycin from the culture medium of an actinomyces belonging to the species Streptomyces griseus was made in January 1944. Since then a most extensive literature has accumulated. Nearly twelve hundred papers have been published in numerous journals throughout the world in this brief period of a little over four years. In order to make this literature available to all those interested in streptomycin, an effort has been made here to collect all the references dealing with the various aspects of this subject. These include cultural studies, selection of suitable strains of Streptomyces griseus, methods of isolation and purification of streptomycin, problems of manufacture, bacteriological and chemical assay procedures, chemical investigations of streptomycin and allied componds, determination of antibacterial properties in vitro and in vivo, pharmacology, activities in experimental animals, and most extensive, the numerous clinical investigations and the utilization of streptomycin as a chemotherapeutic agent.

The Treatment of Rheumatism In General Practice, by W. S. C. Copeman, O. B. E., M. A., M.D., Physician in Charge, Dept. of Chronic Rheumatic Diseases, West London Hospital, Fourth Ed., 258 pp., Williams & Wilkins Co., Baltimore, $4.

This book is an endeavor to fill a gap which appears to exist in the literature of the rheumatic diseases. Several excellent volumes dealing with many aspects of the subject from a specialized standpoint have been written. This work, however, is probably the first one to be written by a general physician who had endeavored to survey the whole field impartially and to concentrate upon practical therapeutic methods which are available for the general practitioner. The clinical aspects of the various forms of rheumatism are discussed in the earlier chapters together with an outline of the treatment appropriate to each. In the latter chapters these various forms of treatment, including physical methods, are discussed more fully. A chapter on prognosis has also been included in the belief that this has been neglected in the past. An endeavor has also been made to present a brief summary of all methods of treatment from which relief or cure has resulted, giving the author's personal experience of each.

Chemistry and Uses of Insecticides, by E. R. de Ong, Ph.D., Consulting Entomologist, 345 pp., Reinhold Publishing Corp., New York, $6.

This book deals in detail with all types of insecticides, with special emphasis on those which have been recently introduced. The information given about each product covers its chemical nature, its effectiveness on various types of insects, cautions regarding its use, methods of application to crops, and all other pertinent data. Chapters are devoted to arsenic, copper, sulfur, mineral oils, and synthetic organic insecticides. Particular attention is given to the subject of fumigation. The author furnishes a definite critical evaluation for all the insecticides discussed. This is intended to be a handbook of insecticides designed primarily for the use of growers in all branches of agriculture. It includes a complete dictionary of insecticides, and glossary, and numerous tables of data, standards of performance, etc.

The Chemistry and Technology of Enzymes, by Henry Tauber, Ph.D., 550 pp., John Wiley & Sons, Inc., New York, $7.50.

When Mr. Tauber's book, Enzyme Technology, was published in 1943, many suggestions were made to the effect that a section on the chemistry of enzymes should be added to the book. Five years of practical use in industry have proved the value of these suggestions. However, instead of merely revising his book, Mr. Tauber decided to write a new book. In it he includes the latest information on enzyme technology plus a complete survey of enzyme chemistry. The book is divided into two parts. In Part I the chemistry of each class of enzymes is treated, while Part II covers the industrial production and use of these same enzymes. This arrangement permits a unified treatment of the chemistry involved, and at the same time makes it easy for the reader to refer quickly to the exact information he requires without being forced to read through extraneous chemical or technological data. Many industrially important findings which have come out of World War II are discussed in the patter part of this work. There is an especially large section devoted to new material dealing with fermentations and biosynthesis.

Diseases of the Adrenals, by Louis J. Soffer, M.D., Associate Attending Physician, the Mount Sinai Hospital, Second Ed., 329 pp., Illus., Lea & Febiger, Phila., $6.50.

During the last quarter of a century, clinical medicine has been generously enriched by ever broadening knowledge of the chemical processes involved in the functioning of the endocrine organs, which has greatly advanced our understanding of their physiological behavior under normal and abnormal conditions. Until twenty or twenty-five years ago, it is interesting to recall, our knowledge of endocrine functions was based upon animal and human experiment and, even more largely, upon clinical observation of persons with anatomical and physiological abnormalities. The earlier appreciation of the essential interralation of the organs of internal secretion is now founded more securely upon chemistry and experiment. With these advances, new insight has been gained concerning the nature of the chemical manifestations of many endocrine disorders, and diagnostic procedures have been elaborated which facilitate their early recognition. The recent deluge of therapeutic preparations, often under a variety of confusing trade names, has revealed new possibilities for the saving of life and the amelioration of disease, provided they are employed with adequate understanding of their scientific indications and of their dangers. Within the covers of this volume, Dr. Soffer has brought together all the recent knowledge concerning the adrenals which should be available to clinicians and to students of endocrinology.

READERS' QUESTIONS

DENTURE CLEANER: Please send me a formula for a cleanser for plates and bridges, one that will remove stubborn accumulation. *Beverly Hills.*

A formula for a good type of denture cleanser as recommended by the American Dental Association, consists essentially of a dilute solution of trisodium phosphate. Their formula is as follows:

Trisodium phosphate	**120.00 Gm.**
Oil of cinnamon	**0.30 cc.**
Amaranth solution	**2.00 cc.**

Dissolve scant ¼ teaspoonful in half glass of water and use with brush. Note: Cellulose acetate type denture is decomposed by alkaline substances. Phenol formaldehyde and acrylic types withstand most chemical agents.

HAIR LACQUER: We are endeavoring to secure a simple formula for a hair lacquer; perhaps you will be good enough to assist us. Dublin.

The following formula for a hair lacquer should meet your requirements:

Bleached shellac	**10.0 parts**
Hot water	**68.0 "**
Borax	**2.0 "**
Eau de Cologne	**30.0 "**
Dye	**sufficient**

Dissolve the shellac in the hot borax solution, cool, and then add the perfume.

SPECIMEN JAR CEMENT: I am a pharmacist in a hospital pharmacy. I have had quite a few requests from the pathology department for a Museum Jar Cement. I have not been able to find this item listed in any of the reference books available. Can you submit some formulas on this item? Brooklyn.

Glycerine–litharge cement is often used for this purpose. It must be prepared just before use by mixing enough glycerine with powdered litharge to form a paste of the desired consistency. Utensils and mixing tools must be cleaned immediately after use because the Cement sets hard within a very short time. Another seal for specimen jars is given in the DENTAL FORMULARY by Prinz, as follows:

Cabinet makers' glue	**80 parts**
Gum arabic	**20 "**
Glycerine	**10 "**
Water	**150 "**
Acetic acid, U.S.P.	**5 "**
Thymol	**5 "**

Soak the glue in cold water for twenty-four hours, pour water off, weigh the softened glue and add water to bring the weight to 230 parts. Now add the other ingredients and heat in double boiler until dissolved.

CURLER CAPSULES: Can you give me information on the manufacture and compositions of the new hair curl compounds that are being merchandised in capsule form? Cedar Rapids.

These materials are put up in red capsules containing 0.7 Gm. of curling agent. A number of materials have been employed. From the analysis, we know that one brand utilizes a mixture of ferrous sulfate and citric acid. Another contains ferrous citrate. I understand that the third formula is based on ferrous ammonium sulfate. Essentially, all of these compounds are alike in that they consist of the ferrous salt of a dibasic compound, and that in solution they yield solutions of very low pH. I think this information is adequate to start as a basis for further experiment and formulation.

HAIR TONIC: We would be very appreciative if you would send us an effective formula for a hair tonic. We have been unsuccessful in preparing a satisfactory product. The formula we have been using contains some catharides which makes a bad looking mixture. Columbus.

There are literally scores of formulas for making such preparations. One well recommended hair tonic consists of:

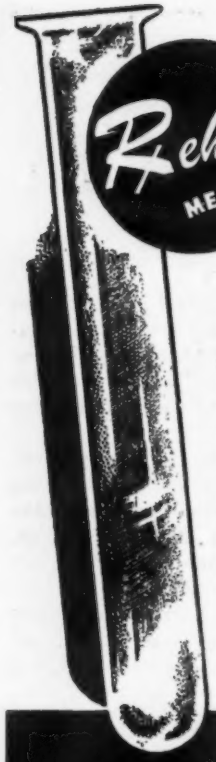
Resorcinol monoacetate	**8 Gm.**
Castor oil	**8 cc.**
Lavender spirits	**30 cc.**
Alcohol, to make	**240 cc.**

This is applied to the scalp daily with gentle friction.

WATERLESS HAND CLEANER: We are subscribers to your magazine and we would like to know if you can help us out with a formula for a good waterless hand cleaner such as is used by mechanics, etc. Grand Rapids.

Products of this type have been described in our magazine. One appeared, for example, in the "Reader's Question" section of DRUG & COSMETIC INDUSTRY, March 1948, page 391. Another type of waterless hand cleaner which is rubbed into the hands until it falls off, dry, is made from:

Methyl cellulose (4000 cps)	**14.3**
Alcohol	**5.5**
Glycerine C.P.	**5.5**
Lanolin	**0.3**
Menthol	**0.1**
Propyl para-hydroxybenzoate	**0.3**
Distilled water	**74.0**



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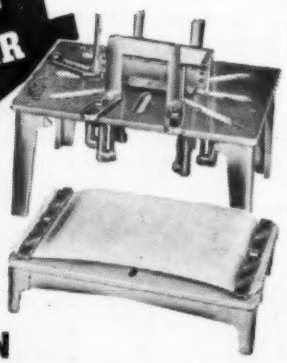
The NEW E-Z HAND LABELER



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Depilatories in Review
Part III

(*Continued from page 605*)

the hair, the amount of thioglycollic acid being sufficient to render the hair removable after contact therewith within a short time and without irritation to the skin, and the alkaline reacting material being present in an amount sufficient to give the preparation a pH value between about 10 and 12.5.

U.S. 2,337,774, issued June 5, 1945, tor Depilatory Pad to Maximilian Gotham.

This patent provides for a ready-to-use depilatory pad comprising a fabric upon which is spread the depilatory substance covered with an easily removable protective sheet or folded so that the coated parts protect each other.

The depilatory is a substantially permanently sticky substance and comprises rosin and a plasticizing liquid, such as alcohol and esters. It is stated that rosin in the proportions of 75 to 88 per cent and the balance of rosin plasticizing liquid produce the most desirable depilatory substance.

The protective covering is preferably a thin sheet of cellophane, although any protective sheet such as wax paper or an acetate may be used.

The only claim in the case reads as follows:

A ready to use and instantly removable depilatory pad for application to the body comprising in combination a substantially impermeable base section and a coating permanently mounted thereon; said coating being made of plasticized rosin, of which an amount in the order of 75 to 88% is rosin and the balance is rosin plasticizer; said proportions producing a substance having the physical properties at room temperature of being substantially permanently sticky while mounted on said base section, of permanently securing itself to the base section and to any hair with which it comes into contact, and of easily releasing itself from the skin when detached therefrom without injury thereto.

U.S. 2,417,882, issued March 25, 1947, for Composition for Removing Unwanted Hair to Leonard J. Neary.

This is still another one of the "hair-pull" patents. According to this patent an improved hair removing composition may be prepared by mixing a sticky, viscous, non-setting water-soluble syrup with a water-insoluble, non-abrasive powdered filler. For the viscous syrup commercial glucose is preferred, but other syrups such as honey, molasses and other water-soluble, non-crystallizable sticky viscid liquids may be used. The insoluble powder filler may be talc, zinc oxide, whiting, silica, flour or similar material.

The composition may be used by spreading the plastic mixture with a spatula in a thin layer over the desired area and then removing it by pressing a cloth or the like over the spread-out material and stripping the cloth and adhering mixture from the skin surface, the unwanted hairs being pulled out by adhesion in the mixture.

Claim 1 is typical and follows:

A hair-removing composition containing as essential ingredients glucose, and a water-insoluble powder, in the proportions of approximately 2 to 1 respectively and being at temperatures not over body temperature a spreadable, sticky, semi-liquid product.

U.S. 2,425,696, issued August 12, 1947, for Epilator, assigned Dorothy Herrmann, and Ernest Herrmann.

According to the patent it discloses a simple and inexpensive device which may be self-applied by the

(*Continued on page 638*)

Quaternary Ammonium Compounds

(Continued from page 560)

Quaternary ammonium compounds are finding rather frequent use in throat swabs, gargles and mouth washes. For example, a 1:1,000 solution of Phemerol may be applied by swab or spray to the pharynx and tonsils in acute tonsillitis and pharyngitis. When used in the mouth and throat as a wash or gargle, this solution should be diluted with four parts of water.[44] Of kindred interest is a so-called collutory described as an antiseptic, detergent, deodorizing, palliative oral solution. Recently marketed under the trade name, Lorakon (Bayside Pharmaceuticals, Inc., New York, N. Y.) this product contains benzalkonium chloride (1:4,000) and glycerine in a slightly alkaline aqueous vehicle.

Formulas for making mouth washes are available in manufacturers' literature and in patent specifications. For example, a standard type mouth wash, which is used in a 1:3 dilution, may be prepared from:

Hyamine 10-X (25%)	**0.25 per cent**
Denatured alcohol (S.D.-38B)	**25.00 " "**
Water, to make	**74.75 " "**
Color and flavor	**sufficient**

If a concentrated or astringent type mouth wash (to be used at a dilution of 1:30) is desired, it can be made as follows:

Hyamine 10-X	**2.5 per cent**
Zinc chloride	**0.1 " "**
Water	**97.4 " "**
Color and flavor	**sufficient**

Another variation is given in Shelton's[43] patent, as follows:

Cetyl trimethyl ammonium salt	**0.02-0.04 per cent**
Boric acid	**1.00 " "**
Alcohol	**20.00-30.00 " "**
Color and flavor	**as required**
Water, to make	**100.00 per cent**

While on the subject of oral hygiene preparations it is quite appropriate to discuss the use of quaternaries in the formulation of dentifrices. For example, a working basis for further study and testing is given in the following formula for an antiseptic tooth paste:

Hyamine 10-X crystals	**0.25 per cent**
Wetting agent (Triton X-100, Rohm & Hass Co.)	**1.00 " "**
Methocel, 4,000 cps. (Dow)	**0.70 " "**
Glycerine	**8.00 " "**
Tricolcium phosphate	**5.00 " "**
Calcium carbonate	**43.00 " "**
Glycerine (Merck)	**0.40 " "**
Oil of peppermint	**0.02 " "**
Oil of cassia	**0.02 " "**
Water	**46.61 " "**

The same manufacturer also supplies a formula for an antiseptic tooth powder, as follows:

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Hyamine 10-X	**0.3 per cent**
Wetting agent (Triton X-120)	**4.0 " "**
Saccharin	**0.4 " "**
Dicalcium phosphate	**40.0 " "**
Calcium carbonate	**54.5 " "**
Methyl salicylate	**0.8 " "**

To round out the picture, a formula for a powdered denture cleaner is also provided. One-half teaspoonful of the following preparation is added to a glass (8 ounces) of water for use:

Hyamine 10-X crystals	**2.5 per cent**
Triton X-100	**2.0 " "**
Tetra sodium pyrophosphate	**95.5 " "**

Returning now to the strictly medical uses for the quaternary ammonium compounds, it may be noted that these agents are also of value in the field of urology. As was already indicated, solutions of rather low concentration are employed for bladder and urethral irrigation and for bladder retention lavage. Interesting here is work[36] done with the newer preparation, Urolocide. Solutions of this compound were used for bladder irrigation in dilutions of 1:20,000 and 1:40,000. For example, of 11 patients whose urine gave positive culture of color bacillus, 10 became negative after the 1:20,000 Urolocide irrigation. In cases where renal pelvic lavage was needed, the same dilutions were used; the strength depending on the technic employed.

Gynecologists are finding frequent use for quaternary ammonium preparations; a standard indication being their employment in solutions for irrigating the vagina. Quisno and Foter[47] have found that cetyl pyridinium chloride (Ceepryn) is germicidal to the flagellate, *Trichomonas vaginalis*, while other studies[48] have shown that Phemerol and Zephiran are valuable in the treatment of trichomoniasis.

When used as cleansing douches, solutions of the quaternaries have the advantages of not staining clothing and tissues and of preventing the formation of unpleasant odors. Worth citing in this connection is one manufacturer's formula for an antiseptic solution for feminine hygiene:

Hyamine 10-X (25%)	**12.0 per cent**
Glycerine	**3.5 " "**
Distilled water	**84.5 " "**

This preparation may be perfumed and colored if desired. It is recommended for use at a dilution of 1:90.

To further facilitate treatment of gynecological disorders, the compounds are being supplied in vaginal suppositories, powders and jellies. Typical are the products provided under the Ceepryn trade-mark. For instance vaginal suppositories containing a 1:1,000 concentration in a glycerine-gelatin base are provided for follow-up treatment in leukorrheal infections. A powder, which helps to restore normal vaginal pH, contains 0.5 of Ceepryn in a base of boric acid, kaolin and dextrose. The Ceepryn jelly provides a germicidal lubri-

cant for gynecological and obstetrical examinations. It also provides a soothing antiseptic dressing for post-partum care.

Of interest here is the lubricating jelly described by Shelton,[43] as follows:

Cetyl trimethyl ammonium salt	**0.1 per cent**
Tragancanth	**1.0 " "**
Glycerine	**15.0 " "**
Water, to make	**100.0 " "**

The quaternary ammonium compounds have several actual and potential applications in the cosmetics industry. For example, one manufacturer reports that his quaternary compound, a commercial type, is being used as an ingredient of skin cleansers, after-shave lotions, under arm deodorants, hair tonics, antiseptic cuticle softeners and various other products. He also mentions their potentialities in shampoos and hair rinses.

Another leading manufacturer of these compounds presents a typical formula for making an antiseptic after-shave lotion, as follows:

Hyamine 10-X (25%)	**0.250 per cent**
Denatured alcohol (S.D. 38-B)	**40.000 " "**
Menthol	**0.005 " "**
Benzocaine	**0.025 " "**
Water	**59.720 " "**

Zussman[16] has pointed out that an especially promising application for these compounds is in the formulation of shampoos. He notes that some of the quaternary ammonium salts have unusually good foaming and lathering properties, may be used in hard water, rinse easily, and leave no undesirable film on the scalp. In addition, the hair acquires luster and softness, but is not excessively defatted. While not to be considered as competition for regular shampoos and soaps for ordinary use, he is of the opinion, that these compounds may be applicable in cases of unusual skin sensitivity where freedom from fatty acids are indicated or where an antibacterial action is desired. Their action may also be put to good use in solubilizing hair dyes.

Whatever the potentialities in shampoos, certain quaternaries have proved their worth in the formulation of hair rinses which leave the hair soft, lustrous, and easy to comb. A preparation of this sort, a cream hair rinse, may be made along the following experimental lines:

Quaternary ammonium compound	**4 per cent**
Glyceryl monostearate	**3 " "**
Water, to make	**100 " "**

During the last few years considerable attention has been focused on the unusual deodorizing action shown by the quaternary ammonium compounds. It was long assumed that these cationic detergents, through their antibacterial action, prevented odors by inhibiting putrefaction. More recently, however, it was observed that the quaternary ammonium compounds are deodorants in the true sense of the word. They have proved

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•

In the United Nations it has given Gromyko more exercise than he has had since 1939, when he had to bow to Stalin and Hitler at the same time.

•

Comrade Gromyko, apparently, is trying to dissuade the American Congress from ratifying the document for basic Marxist reason: Even before the Nazi-Soviet honeymoon Communists found it easier to live with pacts than with facts.

•

Why can't the Russian Foreign Office learn that the only Gromyko who impresses Yankees is the one who pitches for Cleveland?

•

In the same vein, the only Reds who command American respect fields 9 men in Cincinnati instead of 13 in the Kremlin (and even the Cincinnati Reds are a second rate team these days).

•

Stalin must be blowing his top at the Atlantic Pact for another reason. He was always afraid that a Fourth International was going to be organized by Trotzky not Truman.

•

The Soviets are having a tough time convincing the world that they are the most peace loving country that ever stuffed a ballot box, censored a free press, or made military conscription a basic industry.

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effective for a variety of general, industrial and household odors at high dilution. Especially important is the fact that they achieve this deodorization without imparting an odor of their own. This is in marked contrast to other types of deodorizers which disguise or mask one odor with another.

Manufacturers of the quaternaries are now investigating this phase of utility. For instance, it has been reported that for destroying many odors their source a 0.1 per cent solution of Hyamine 1622 is effective; the solution being sprayed on the source of the odor. For use as air sprays, 0.05 to 0.1 per cent solutions are recommended as being efficient against a number of cooking and other odors. In certain hospital wards, obnoxious odors can be eliminated by the use of a 0.1 per cent solution for spraying or a 1 per cent solution for sponging or mopping.[49]

Tests have also shown that certain quaternaries can also be used as personal deodorants. In discussing this use, Hilfer[50] has stressed the need for special consideration with respect to the factor of incompatibility. The manufacturers of Hyamine 1622 have made tests among selected personnel on the value of the compound as a personal deodorant. For personal uses, 1 per cent solutions generally were effective and are recommended for use on the body, clothing, and in shoes. A 2 per cent solution may be used with safety, it is said, for personal application. Where a creme (paste) deodorant is desired, the following formula is suggested as a working basis for further investigations:

Hyamine 10-X, crystals	**2.0 per cent**
Triton X-155	**2.0 " "**
Glyceryl monostearate, pure	**15.0 " "**
Spermaceti	**5.0 " "**
Glycerine	**3.0 " "**
Water	**73.0 " "**

As pointed out in a previous review[51] and as noted earlier in this discussion, the quaternary ammonium compounds have found employment as instrument disinfectants. When used for this purpose, these compounds have the advantages of excellent wetting and penetrating properties. However, like most other "cold" instrument disinfecting solutions, these cationic detergents have little sporicidal activity and their antibacterial potency is reduced by organic matter and by soap. It is therefore essential that all traces of these substances be removed by thorough rinsing before instruments are stored in the disinfecting solution.

Although it may vary somewhat with the different compounds, a concentration of 1:1,000 is usually employed for instrument disinfection. In the case of benzalkonium chloride, for example, a 1:1,000 solution is recommended[18] for the sterile storage of metallic instruments and rubber articles. A 1:5,000 concentration of the solution may be employed for the disinfection of operating room equipment.

As noted by Varley,[6] some sort of inhibitor is necessary to prevent rusting or pitting of instruments upon long storage in quaternary solutions. To overcome this

tendency, from 0.5 to 1 per cent of sodium nitrite is added to the solution. Sometimes it is recommended[52] that 2 Gm. of sodium nitrite and 5 Gm. of sodium carbonate should be added to each liter of solution to prevent rusting. Frequent solution changes, at least once a week, are advised.[39]

In barber shops and beauty parlors, similar solutions of quaternary ammonium compounds, including the technical grades, are used to disinfect combs, brushes, razors and scissors. Of decided interest in this connection is a procedure worked out by a group of investigators[53] of the U. S. Navy. Developed as an acceptable procedure for the routine disinfection of barbers' instruments, the method is as follows: (9) Prepare a 1:500 dilution of Phemerol or Hyamine concentrate daily in distilled water, with trisodium phosphate added in a concentration of 8 Gm. per liter. (b) Wash the instruments free of soap in running tap water, immerse in the solution for 10 minutes, then rinse in running tap water and dry with a clean towel.

In passing, it should be mentioned that quaternaries also show potentialities as preservatives. In 1939, according to McCulloch,[54] Zephiran was recommended as a preservative for biological products. More recently, Tice and Moore[55] investigated the value of Ceepryn and Phemerol as preservatives. It was found that very low concentrations of these compounds were effective in preserving both gelatine and sucrose solutions.

Before concluding brief consideration should be given to a group of quaternary ammonium compounds the medical indications for which are quite different from those previously discussed. Classed as ganglionic blocking agents, these compounds include tetraethylammonium chloride, which is available in this country as Etamon, and tetraethyl ammonium bromide. Given parenterally, these compounds may be employed diagnostically and therapeutically in the treatment of various vascular disorders, especially peripheral vascular conditions.[56,57,58] There also is evidence[59,60,61] that these compounds may find similar uses in some cases of hypertension. Work[62,63] is also being done to determine their value in gastrointestinal conditions. Still being investigated, there is growing evidence that the tetraethylammonium salts will become valuable members of the medical armamentarium.

Sources of Quaternary Ammonium Compounds Cited in this Review:

Alrosept MB—Alrose Chemical Co., Providence, R. I.
Arquads—Armour & Co., Chicago, Ill.
BTC—Onyx Oil & Chemical Co., Jersey City, N. J.
Ceepryn—Wm. S. Merrell Co., Cincinnati, Ohio.
Cetab—Rhodes Chemical Co., Plainfield, N. J.
Cetavlon—Imperial Chemicals, Ltd., Manchester, Eng.
Emulsept—Emulsol Corp., Chicago, Ill.
Etamon—Parke, Davis & Co., Detroit, Mich.
Hyamine 1622 and 10-X—Rohn & Haas Co., Philadelphia, Pa.
Germ-i-tol—Fine Organics, New York, N. Y.

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Phemerol—Parke-Davis & Co., Detroit, Mich.
Roccol—Winthrop-Stearns, Inc., New York, N. Y.
Rodalon—Rhodes Chemical Co., Plainfield, N. J.
Urolocide—American Cystoscope Makers, Inc., New York, N. Y.
Zephiran—Winthrop-Stearns, Inc., New York, N. Y.

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Instruments for Producing Pharmaceuticals

(*Continued from page 555*)

following day so that the reaction will be well started before the day shift reports for work. This vessel is equipped with a recording thermometer pneumatic controller so that steam is admitted at a rate required to attain and maintain the desired temperature. If for some unforeseen reason the temperature should

rise beyond the desired point, the steam supply will be immediately shut off.

Temperature and Humidity Controlled Driers

Many of the products of reaction are solids, but must be separated from large volumes of liquid by filtration and dried before they can be incorporated into final pharmaceutical preparations.

The chemical department contains approximately 10 steam-heated, cabinet type (Drying Systems, Inc.) driers. Each of these units is temperature controlled by a Brown recording thermometer, equipped with a narrow proportional-band pneumatic-control unit.

In some driers, humidity must be controlled. This is necessary where the product being dried is quite hygroscopic. Often alcohol is used instead of water as a solvent to minimize the hygroscopic effect. Wet-and dry-bulb thermometer controllers are used on these units. The wet bulb controls a damper which governs the amount of air recirculated through the Kathabar* unit, while the dry bulb controls a valve on the steam line to the heating coil. Whereas the wet bulb is important to eliminate the absorption of moisture by the hygroscopic product, the dry bulb must be closely controlled to avoid chemical decomposition.

A Honeywell thermostat, located outside the building, causes steam to be admitted to an air preheating coil should the outside temperature fall below 40°F., thus affording protection to the main steam heating coil. A Honeywell static pressure controller on each drier maintains a slight negative pressure in the cabinets, preventing fumes from escaping into the processing area.

Controls in the Pharmaceutical Department

Synthetics, often called intermediates, from the chemical department are forwarded to the pharmaceutical department where, according to formula, they are compounded with diluents, binders, and other ingredients prior to forming into tablets or filling into ampules.

Again, because of the hygroscopic nature of many of the products, air conditioning of the pharmaceutical department is essential. A rise above 40 per cent relative humidity, for example, may cause great difficulty in operation of the tablet making machines. Temperature, humidity, and movement of the air are all automatically controlled.

In addition to the importance of instrumentation in the processing operations at Searle, several integrating-recording flow meters measure all steam and water consumed by individual buildings and departments. These data are used, of course, for cost accounting purposes and periodic engineering surveys of distribution system capacities. The power plant too is completely instrumented.

*Kathabar units, manufactured by Surface Combustion Corp., employ a solution of lithium chloride to remove water vapor from air.

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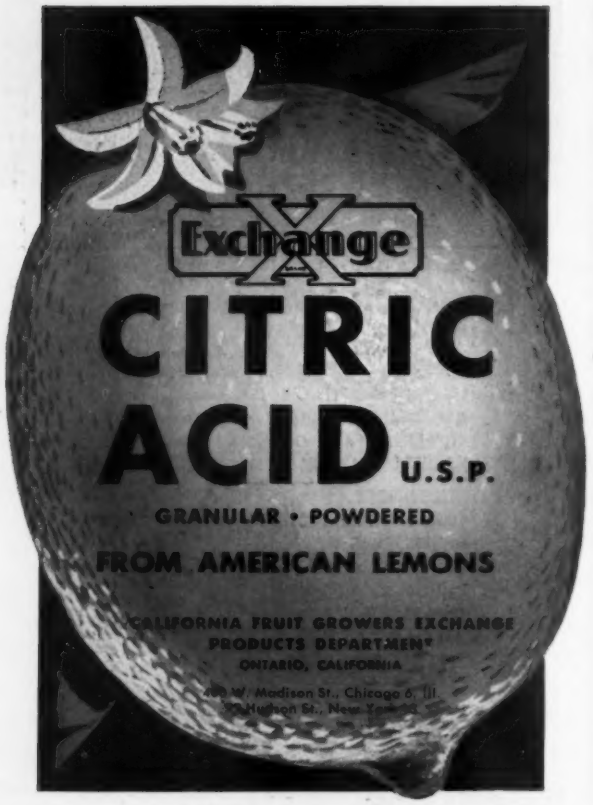

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Depilatories in Review
Part III

(*Continued from page 630*)

ordinary untrained person without professional or lay assistance, and which requires no treating apparatus, no timing or metering equipment and no heating, moistening, or other pre-treatment, which serves for removing all hair from a given area of skin instantly, completely and painlessly, without cutting, shearing or chemically degenerating or dissolving the hair tissues but by uprooting each hair as a unit, and this without infection or mechanical injury to the hair follicle or the skin, all without either inhibiting regrowth of the hair or promoting such regrowth as a thick or coarse stubble.

The epilatory composition includes a relatively solid resin that has adhesive properties, a relatively solid plasticizer and a solvent for both of these ingredients. The composition is applied to a strip of textile or gauze.

Claim 2 is illustrative of the composition and follows:

An epilatory composition comprising the following ingredients in the following proportions:

	Per cent
Colophony	About 63 to 70.5
White beeswax	About 19 to 15
Mineral oil	About 16 to 14
Antioxidant	About 2 to 0.5

Summary

It will be seen that the depilatory art has been quite active insofar as U.S. patents are concerned. Some of these patents are undoubtedly of little commercial or practical significance but others, notably the Donner and Evans & McDonough patents appear to have marked large steps in advancing the art. The decade of greatest patent activity was from 1930, though the activity of the "40s" is still greater than that of decades preceding 1930.

We're one to hazard a guess as to the probable course of future developments in this field it would seem that such developments, if they come, will lie in the field of the "hair-pull" type of depilatory. This statement is made for two reasons. In the first place, the fact that the Evans & McDonough patent relating to cream depilatories has many years still to run will act as a deterrent to advances in the cream field, at least during the life of this patent. A second reason is that so far as is known no successful "hair-pull" depilatory has as yet been placed on the market. While this may be due to the inherent defects in this approach, the considerable amount of patent activity would seem to indicate that it has possibilities. In connection with this forecast, it is interesting to note that the three patents issued in this field since the Evans & McDonough patent was issued all relate to the "hair-pull" depilatories.

The March of Therapeutics

Committee on Biochemistry

(Continued from page 561)

in facilitating the absorption of fluids given by hypodermocylsis, and in the treatment of human infertility. It seems probable that 1949 will find Hyaluronidase receiving ever increasing attention.

In the sphere of the antibiotics, Aureomycin would seem to be the most significant development of the past year. It is obtained from the mold Streptomyces aureofaciens. It is a potent antibiotic being effective against many gram negative and gram positive microorganisms, and most strikingly effective against rickettsial infections. A further use would seem to be in the treatment of primary atypical pneumonia.

The study of Folic Acid displacing agents in the control of cancer, the introduction and establishment of Myanesin in the treatment of Parkinsonism, the involvement of Lysozyme in the etiology of peptic ulcers and of ulcerative and mucous colitis, the use of Aleudrine in asthma, brilliant investigations into phosphorylation mechanisms and the chemistry of muscular contraction have all occupied the attention of biochemists during the year and will doubtless continue to do so during 1949.

By Gustave J. Martin

Committee on Organic Chemistry

(Continued from page 561)

4′-amino) quinaldine-1, 1′-dimethochloride, and 7-carbethoxyamido 9-p-carbethoxyamidophenyl-10-methylphenanthridinium chloride, are reported. The former, which protected certain animals, has not been proven effective in humans.

Keeping up with our atomic age, a pharmaceutical house has announced that it is producing radioactive di-iodofluorescein with Iodine 131, and thiourea and a thiobarbiturate both with Sulfur 35.

Chemists have been busy in the antibiotic field, in determination of structures of Streptomycin and Actidione, and probably others will be reported soon. Chloromycetin and Ameomycin, effective against rickettsial and psittacosis infections, give promise that antibiotics having therapeutic activity against other virus infections will be found. Preliminary chemical studies on both have been published, and the structure and synthesis of Chloromycetin, 1-p-nitrophenyl-2-dichloroacetamido-1, 3-propane diol, have been revealed. The unusual occurrence of a nitro compound in a natural product is worthy of note. A better-tolerated modification of Streptomycin, Dihydrostreptomycin, has been made available commercially.

The chemical identification, modification, and synthesis of biologically active natural products, as well as preparation of new types of compounds continue to be challenges to organic chemists in the fight against disease.

By Martin E. Hulquist

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By MARY CARROLL

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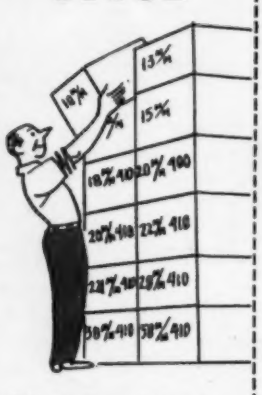

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The Danger of Certification

(*Continued from page 547*)

own benefit. The main point of the matter is that certification of a drug product gives the Food and Drug Administration control not only over potency of a drug product, but also over efficacy. Under the penicillin and streptomycin certification amendments to the Food, Drug, and Cosmetic Act, the FDA is given legal authority to be the sole arbiter of the question of efficacy of these drugs. While it is perfectly right and proper that drugs which ar not efficacious be eliminated from the market, the question of efficacy is one of the most difficult to decide. Three years ago, the U. S. Public Health Service, in regard to issuance of new regulations for the National Institute of Health, substituted the word "potency" for the word "efficacy," and defined "potency" as follows: "The word 'potency' is interperted to mean the specific ability or capacity of the product, as indicated by appropriate laboratory tests or by adequately controlled clinical data obtained through the administration of the product in the manner intended, to effect a given result."

As arbiter of the efficacy of drug products, the Food and Drug Administration would have the authority to rule off the market any product which it did not think should be offered to the medical or other professions, or to the public. This decision on the part of the FDA might be made for any of a number of reasons. While it is perfectly proper that drugs which are without therapeutic effect, or drugs which are dangerous to use in any condition be ruled off the market, the FDA is hardly in a position to make these decisions for the medical profession. Many times a fairly large number of physicians obtain excellent results in certain conditions with drugs which are not generally used. There is no good reason why these physicians should not be permitted to obtain these products. Then again, we all know that drugs have a way of being used for a period of time, and then after being discarded, coming back into use again. There is no valid reason why these drugs should not have been used all the time by those who desired to use them. Also if products of this kind are ruled off the market during the time that they are discarded by the majority of practitioners, then the real benefits which bring them back into favor might never be discovered.

Also in the matter of new specialties, the FDA indicates that under a general certification and control of the efficacy phase of drug distribution, it would decide which of the new specialties available for treatment of condition will be allowed to be marketed. As an example, the FDA speculated as to whether or not thiouracil should have been allowed to go on the market at all if propyl-thiouracil or one of the less toxic forms had been available earlier. At least one firm was told that a mixture would not receive approval and permission to go on the market unless the combination was shown to possess therapeutic merit superior to

(*Continued on page 644*)

Industry's Books

(*Continued from page 628*)

The Therapeutic Value of Penicillin, by Donald G. Anderson, M.D., Secretary, Council on Medical Education and Hospitals, American Medical Association, and Chester S. Keefer, M.D., Professor of Medicine, Boston University School of Medicine, 297 pp., J. W. Edwards, Ann Arbor, $7.

Well before the time that penicillin could be freely sold and distributed, the medical profession of this country was in possession of remarkably complete information concerning the clinical use of this new drug. Much of this information was obtained from the study that was carried out by the Committee on Chemotherapeutics and Other Agents of the National Research Council for the Committee on Medical Research during the period 1942 to 1945. In the course of this investigation more than 10,000 patients were treated with penicillin. For each patient treated a detailed case report was submitted to the Committee on Chemotherapeutics and Other Agents. At appropriate intervals the most important findings on these reports were summarized and made available to the medical profession. When the program of clinical investigation was concluded at the end of 1945, a detailed analysis of the case reports was undertaken with the purpose of making available to the medical profession the maximum amount of information that could be extracted from the clinical study. The results of this analysis are the subject of this report.

Taber's Cyclopedic Medical Dictionary, by Clarence Wilbur Taber, Fifth Ed., Illus., F. A. Davis Co., Phila., with Thumb Index $4., without thumb Index $3.75.

This Fifth Ed., is the outgrowth of Taber's Digest of Medical Terms, which first appeared in 1937. In place of 607 pages in the original, this new work contains nearly 1500 pages. It retains the double column page which makes it possible to present at least one-third more material than may be found in any competitive dictionary. It represents over twice as many pages as the previous edition. In place of 20,000 words this new dictionary includes between 50,000 and 60,000 words, only a few thousand less than the vocabulary of the large unabridged medical dictionaries. In fact, it will be seldom that the users of this new dictionary will find it necessary to consult a larger work. Some twenty new features, not found in other medical dictionaries, are represented, including two hundred seventy-three illustrations.

The Skin Diseases, by James Marshall, M.D., Consulting Dermatologist, Central Middlesex County Hospital, Director of Veneral Diseases Clinic, Royal Northern Hospital, London, 363 pp., Illus., Cambridge, at the University Press; New York, The Macmillan Company, $7.50.

This new manual on dermatolgoy is intended as a guide to diagnosis for students and as a reference book for practitioners. The common diseases are given more prominence, but the whole field of dermatology is considered. A feature is the full description of the cutaneous manifestations of syphilis and the differential diagnosis. The treatment methods given are, as far as possible, those which can be undertaken in private practice. Recent advances in therapy and in descriptive dermatology have been included.

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Danger of Certification

(Continued from page 640)

that which could be achieved by the use of the component parts individually. Take the antihistiminic drugs as an example of a type of product in which numerous preparations are desirable because of the fact that certain people react differently to different products. A wide variety of these products is highly desirable. Yet the FDA might decide that many of them are not superior to others and thereby refuse to permit their sale. A similar case could be made out for the many types of barbiturates now on the market.

From complete control of what ethical specialties would be permitted on the market under such a change in drug control, the step to complete control of all proprietary preparations would naturally ensue. The final result of this change would be complete licensing of drug products and complete elimination of the competitive conditions which are responsible for the creation of the large research staffs now engaged by most of our manufacturers. The urge on the part of manufacturers to create new products would completely disappear, and the drug manufacturing business would be stiffled. Growth of the industry would be halted under the throttling hand of bureucracy.

ADMA 1949

(Continued from page 549)

one more check. But a pedestrian who stands on the curb carefully watching one way and then the other may never get across the street. There must be some limitation to all tests.

"Over fifteen thousand times in the past year the government technicians marched up the hill to test penicillin products and every time when they marched down again they had to say that, like the manufacturers' testers, they had found nothing about the products that would endanger public health. That's a lot of testing. And it cost the public, who pays for all these things ultimately, many, many thousands of dollars. If it were serving a useful purpose, we could favor it.

"We have the highest regard for the fine scientists who are the Food and Drug Administration experts on these affairs. They now have 75 holders of doctorates in their employ. But we can't let the minority obscure the majority. The member firms of this Association alone have more than 1,400 doctors in science engaged in the daily work of producing new drugs or perfecting methods of making old ones or improving assay techniques.

"We are tired of being damned with faint praise. Long have we been told we are fine firms but this control or that control must be had to protect the public from the 'fly-by-night.' Let the Food and Drug

Administration spend more of its time pursuing these 'fly-by-nights.' Let's have more of that type of enforcement aimed at nostrums spieled over the radio. Let's have less assault upon products whose principal use is in the hands of the overwhelming majority of physicians.

"Why talk about 'fly-by-nights" in this antibiotic business anyway? Let any 'fly-by-night' collect together a few million dollars and he might be able to build the plant necessary to make these antibiotics. Then he can have more millions and hire the scientists necessary to make it work. By that time, if he's still in business, he's not a 'fly-by-night.' These products are not stirred together in a kitchen sink.

"The members of this Association are perfectly capable of handling the manufacture of drugs with highest regard to the utmost safety of the public. The Food and Drug Administration knows this. We would appreciate more of their attention to those who do not possess these capabilities and less concentration on efforts to get greater enforcement control over capable manufacturers.

"There cannot be any argument with the contention that certification can be a degrading type of control. Any common denominator chosen in any field is bound to be lower than the best. At the start, it will be higher than the lowest. Ultimately by striking away incentive, it will level all products to one grade. That's not the method that built the world's largest pharmaceutical manufacturing concerns in the United States. That method won't keep them great. Only the incentive to produce a better and finer product will keep them great.

"We don't want to allow a spirit to creep into our laboratories that a thing is all right if you can get it certified. We get the best scientists we can employ. We ask them to produce the finest products they can devise. Are we forced to substitute for that standard one that reads: 'my product is good enough—it's certified?'

"The Food and Drug Administration has indicated that it is in sympathy with our efforts to confine certification to incapable firms and to free the responsible manufacturer and the government as much as possible from needless and costly duplication of assay effort.

"The law should expressly prohibit the government, any manufacturer or any person from making any representation at any time except in a court proceeding involving the product that any drug is or is not certified. This would assist the Food and Drug Administration in preventing 'fly-by-night' operators from trading on the good name of government. It will prevent certification from becoming a standard. It will detract from none of the protective possibilities of certification, but it will prevent anyone from misusing that certification.

"It would appear necessary that the word 'efficacy' be either stricken in favor of 'potency' or that it be defined at the N. I. H. now defines 'potency.' We understand that this is going to meet sharp resistance

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from the Food and Drug Administration. Unless we insist and stand firm and are successful, it is difficult to predict the consequences. It could mean a complete government formulary. It could utterly abolish competitive drug products that have been the keen stimulus to medical progress. These are the crucial problems that we now face. Every member must continue to excercise his best judgment in these matters. There is, however, no place left for indecision unless the firm is ready and willing to acept the full consequences of such a failure to act.

"Based upon the evidence produced at these certification discussions with the Food and Drug Administration, it is the studied conclusion of this Section that the Administrator should be requested to promulgate forthwith regulations under Section 507 (c) to exempt from certification all pharmacetical forms of penicillin now covered by monograph. In the event that the Administrator be unwilling to comply with this request, or should he so prefer it, we are ready to file a petition under the provisions of Section 507 (f) requiring him to hold hearings to promulgate such regulations of exemption."

Dr. F. O. Taylor, chairman of the Pharamecutical Contact Committee, reported on the changing aspects of the committee's functions. Since the Pharmacopoeia and National Formulary are now completely revised every five years, and are brought up to date at shorter intervals by interim revisions, committee recommendations for new or revised standards have not been taken up directly with the Food and Drug Administration, but have gone more frequently than in the past directly to these revision committees with copies of the recommendations to the Food and Drug Administration. In various phases of drug control and standardization, however, the committee's cooperation is wholely with the Food and Drug Administration. An example of this is the report entitled "Recommendations Regarding Maintenance of Sanitary Conditions in the Drug Industry." Work is being undertaken on a comprehensive statement of the principles of quality control might be of use to the entire industry, and a subcommittee headed by Edgar Carter, Abbott Laboratories, is studying the desirability and scope of such a statement. The committee continues to attempt to iron out the matter of particles in ampuls.

The new Research and Development Section of the Association includes the Committee on Pharmaceutical Chemistry, Committee on Organic Chemistry, Committee on Biochemistry, and the Committee on Physico-Chemical Development.

Research and New Products

(Continued from page 553)

and propose methods of large scale productions which are infallible. Yet, every time Research suggests that complications arise in transfer to large scale; Production views with alarm. Cooperation is a two way street.

Production is too often apt to indulge in cries of defective formulation before they have checked even the simplest things. Too often, Production does not consult with Research on matters of engineering. Production lines can get clogged up at critical points and Production should bear in mind that Research might just possibly offer suggestions of value which would eliminate future complications. New machinery, new equipment, new equipment design should all be the subject of joint consultation and not exclusively the prerogative of Production unless production is willing to bear exclusively the blame for failures and defects.

Management is much too much inclined to demand an immediate return on investment. A new product —*NOW* . . . There is too little recognition of the time element in Research.

There is an inclination to keep a firm hand on Research but at the end of the year to blame the Research director if things go wrong. If management wants to dictate to Research either directly or through a research committee then management or the research committee and not the research director should be held responsible for success or failure.

Little long range planning is made possible by rigid adherence to a fixed program. Expenditures for Research vary with gross sales. This is a system which does not permit planning of Research along basic lines over a long term. Obviously today Research as distinguished from development is a long range affair. It involves periods of five years or even of ten years. Great stability must be given a Research organization if it is going to plan for the future along fundamental lines. Management is much inclined to ask "Why haven't you developed a cure for cancer" when funds have been provided only for the creation of a new elixir of B complex.

There remains a rather medieval attitude concerning the degree to which Research management is permitted to become involved in the management of the company. Representation of Research on all managerial committees and on the board of directors is vital to intelligent company operations. The future of any drug company depends more on new developments in products than it does on the development of new techniques in manufacturing or on new techniques in advertising and selling. Research will provide the changing element in the structure of the drug industry. This then must be planned and its execution begun now. Hit and miss management must become a thing of the past. The drug industry must make more and greater contributions to the world of science if it hopes to escape complete socialization. This can only be done by intelligent joint planning. Research representatives must be given their rightful place in top Management. The trend is more apparent now and the more alert companies have already taken the necessary steps.

Above all else, Management must come to recognize the research worker for his contributions and pay him accordingly. Today, the average truck driver is as well paid as the average research worker. His element

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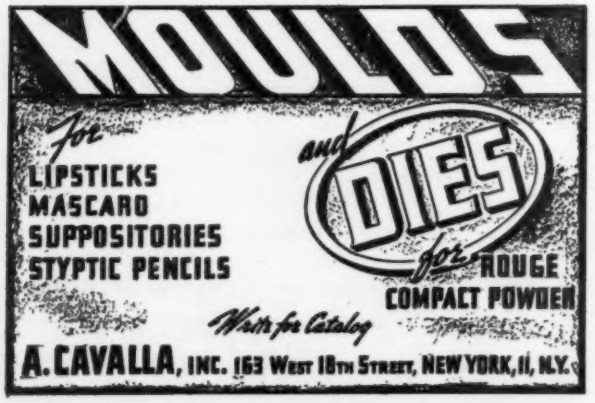

of security is even less than that of the truck driver. Myopic Management looking to this year's dividends curtails Research at the earliest sign of a recession in gross sales.

Management cannot clearly present a picture of its expectations from Research. If Management could do this and did, then Research men might say "Brother, you want the moon; and that is out of our sphere." Usually today Management simply states that they want Research and development. To a new man, they say we want you to produce within three to five years; then, after one year has passed, they come around hollering for productivity. Management should accurately define expectations.

Many contributions made by Research are not credited by Management to Research. Publicity value is one factor; many research organizations contribute in an ethical manner thousands upon thousands of dollars worth of free advertising. Those Research organizations are not credited for it. Another thing is: a new product sells old products; this fact too is frequently overlooked.

Management rarely clearly defines overlap. There should be some precise mechanism of transfer of products to production; some precise and clearcut mechanism for correlation of Sales with Research. Enough black and white recording of sphere and limitation of responsibility should exist so that no one need point a finger; the responsible person will have been clearly designated by existing protocol. It is easy enough to spout platitudes "Shoulder to the wheel; it's all for the good of dear old Drug Company" but concise, clear and jointly agreeable delineation of function should be made, and the platitudes permitted to continue to collect moss in grandmother's discourses.

Executive Management inclines to hide behind the almighty Board of Directors. The customary routine of "We can't do this because the Board won't let us." Boards are necessary evils but it is Executive Management's job to keep the Board *out* of the hair of the people who are really doing the work. One of the best ways to do this is to have the operating heads on the board. Here, again, as with all of these items, certain

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forward looking companies have taken the necessary action.

Management fails to recognize that research men are for research pruposes. If research men are called on to check advertising, discourse with salesmen, etc., then those functions clearly interfere with time which could and should be devoted to creation of new products. Time spent in useless committee meetings is another bad thing. Committees composed of more than three persons usually degenerate into bull sessions in which everyone talks, no one listens, no decisions are reached, and a great deal of time is forever lost. Management likes committees; operational heads usually detest committees. Committees are many headed dragons that breathe fire, thrash about, make enormous noises and eventually let the mouse escape with the golden apple.

BIG BUBBLES IN BATHS: Please send me some formulas for a bubble bath preparation, which will produce large bubbles such as are shown in the movies. Boston.

The bubbles shown in moving pictures are special preparations, used under very special conditions with special equipment. However, if you want a formula for a good foam powder, I would suggest that you try the following:

Sodium bicarbonate (dry)	**30.0**
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HAIR CONDITIONING CREAM: We are interested in a formula for a hair dressing which contains a hair conditioner. If possible, we would like a preparation similar to Herbex No. 3. New York.

It is contrary to our policy to divulge the composition of trade-marked products in our Reader's Questions Department However, a quite nice hair cream which contains a conditioning agent may be prepared from the following:

White mineral oil	**20.0 per cent**
Light hydrocarbon distillator	**10.0 " "**
Beeswax	**8.0 " "**
Lanolin	**2.0 " "**
Borax	**0.5 " "**
Perfume	**0.1 " "**
Water	**59.4 " "**

Melt the wax and lanolin and add blend of oils at 150°F. Dissolve borax in water, heat to 200°F. and add to mixture of oil and wax ingredients. Stir during addition until a complete emulsion has formed. Perfume when cold.

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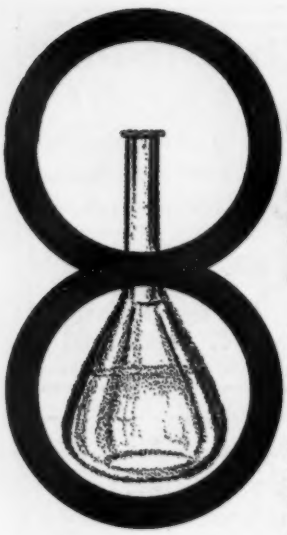

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